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Present-Day Gardening

EDITED BY
R. HOOPER PEARSON
MANAGING EDITOR
OF THE *GARDENERS'*
CHRONICLE.

A LIST OF VOLUMES
IN THE SERIES IS
GIVEN ON THE NEXT
PAGE.

Present-Day Gardening

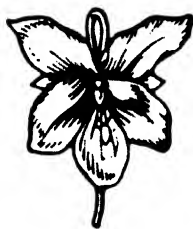
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1. **SWEET PEAS.** By HORACE J. WRIGHT, late Secretary and Chairman of the National Sweet Pea Society. With Chapter on "Sweet Peas for Exhibition" by THOS. STEVENSON.
2. **PANSIES, VIOLAS, AND VIOLETS.** By WILLIAM CUTBERTSON, J.P., and R. HOOPER PEARSON.
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Pansies·Violas & Violets

*By William Cuthbertson, J. P.
With Eight Coloured
Plates*



*London: J. C. & E. C. Jack
67 Long Acre, W.C. & Edinburgh.*

PLATE I (*Frontispiece*)
FOUR YELLOW VIOLAS

Redbraes Yellow.

Maggie Clunas.

Klondyke.

General Baden-Powell.

PREFACE

THE title to this volume will not be likely to confuse the amateur, for, in speaking of the plants, he is accustomed to use the names in the senses they are now employed. At the same time, for reasons pointed out by Mr. Cuthbertson in his Introduction, the terms cannot be regarded as appropriate, for in botany the word *Viola* includes every section of the genus. In these matters, however, it is frequently custom rather than botanical science that establishes practice, and this applies to the present case.

The lowly plants Mr. Cuthbertson treats upon are amongst the most floriferous, most showy, most pleasantly fragrant flowers in the outdoor garden, and no one has more closely studied their culture than the present author.

By including Pansies and *Violas* in the "Present-Day Gardening" series, readers are provided for the first time with coloured plates setting forth the flowers in the most natural manner photographs can illustrate them.

I am indebted to Mr. W. Irving for notes on some of the more important species in the genus *Viola*.

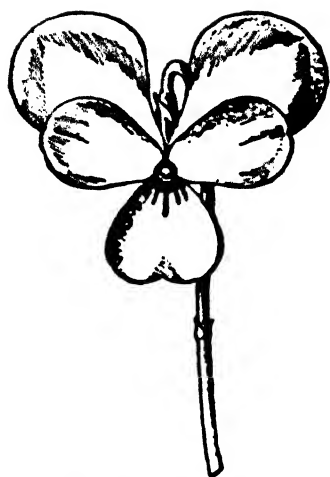
THE EDITOR.

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THE DEVELOPMENT OF THE PANSY.

Top flowers (reading from left to right): Wild Pansy and Cultivated Pansy of 1830.

Bottom flowers: Show Pansy of 1870 and Fancy Pansy of 1910.

PANSIES, VIOLAS & VIOLETS

INTRODUCTION

"The pretty Pansies then I'll tie,
Like stones some chain enchasing,
The next to them their near ally
The purple Violet placing."

ONE of the first flowers children learn to love is the Pansy, and the love thus early acquired is preserved to the end of life. To what shall the preference be attributed? Is it to the modest habit of the flower, its sweet fragrance, its rich velvety texture, or its easy culture and adaptability? When a town dweller first succeeds in obtaining a small plot of ground for the cultivating of flowers, he invariably begins with Pansies and Violas. He may aspire to higher things, but he starts with Pansies, than which no flowers are more suited for cultivation in the suburban gardens of our large towns. In many situations they become almost perennial, whilst some of the Violas are so precocious in spring they will bloom under the snow. The reader has probably seen the effect of a snowstorm in April on a bed of Crocuses, when the yellow or purple flowers appeared as colour lines

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on a ground of pure white ; an equally charming effect is sometimes, though less frequently, seen with *Violas*.

It may be well to explain at the beginning of this book the different meanings which have come to be attached to the names *Show Pansy*, *Fancy Pansy*, *Viola*, *Tufted Pansy*, and *Violetta*.

Prior to 1850 there was only one kind of *Pansy* known and grown in Britain—it was entitled to be called simply “*The Pansy*,” because there were no others. It was the progenitor of what are known as *Show Pansies* (see coloured illustration). The colours were confined to yellow, white, blue, and purple, but the remarkably fine velvety texture which so many associate with *Pansies* was most apparent in the rich purple shades. *Show Pansies* are now suffering comparative neglect, their place in popular appreciation having been taken by their more gaudy sisters the *Fancy Pansies*. These latter are of continental origin, and were first known as *Belgian Pansies*. The colours of this race are varied as the rainbow, and include, besides the old colours which appeared in the *Show Pansies*, shades of pink, red, rose, orange, salmon, mahogany, and others blended and mixed in the most beautiful and often fastastic manner. The old school of florists regarded it as essential that the eye of the *Pansy* should be clearly cut, and to this day any one who has had a florist’s training instinctively protests against the rayed or ragged eyes seen in so many strains of

Pansies. However, with new times come new ideas, and if a Pansy is big enough and gaudy enough in these days it is approved by a large section of the public.

Viola is the Latin name for the whole genus, and from species within this genus all modern Pansies and Violas have developed. Why, then, has *Viola* been made an English term and applied to merely a section of the genus? It is impossible to say, but the term has come to stay, and every one recognises that the so-called Violas provide the finest hardy bedding plants known. By some who object to the term "*Viola*" this strain is called "Tufted Pansies"; but this term is more misleading than the other, and its use should be discouraged. The name "*Violetta*" is applied to a small growing strain of Violas which has very sweetly scented flowers; the plants are very floriferous and dwarf and tufted in growth.

Sweet Violets, which are well known even to dwellers in the great cities, where they are constantly offered for sale in bunches in the streets and shops during the winter and spring months, are descendants of the wild species *Viola odorata*, so plentiful in the pastures and hedgerows of Southern Britain, but rare in Scotland.

CHAPTER I

HISTORY AND DEVELOPMENT OF THE PANSY

" A little Western flower
Before milk-white ; now purple with love's wound."

THE development of the present magnificent strains of Pansies from the wildlings of nature has taken nearly one hundred years. Writers at the end of the eighteenth century have left on record that the Pansies cultivated in gardens at that time were little better than varieties of *Viola tricolor* to be found growing wild. In addition to the written records, there also exist some coloured illustrations of that period, confirming what is said by the writers.

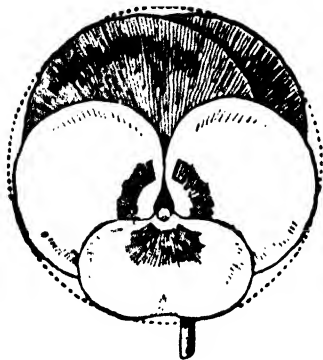
In the year 1813 or 1814 Lord Gambier, who had a residence at Iver near Uxbridge, Middlesex, collected a few plants of *Viola tricolor* and brought them to his gardener, instructing him at the same time to cultivate them in the garden. The gardener's name was Thompson, and he stated, in a communication which appeared in *The Flower Gardeners' Library and Floricultural Cabinet* for 1841, that the plants which his master brought to him twenty-seven or twenty-eight years previously were "roots of the common

yellow Heart's-ease which he had gathered in his grounds at Iver." In Glenny's *Garden Almanack* for 1885, George J. Henderson stated that about the year 1812 there lived at Walton-on-Thames a daughter of the Earl of Tankerville, and her favourite flower was the common Pansy, which she cultivated over a large portion of her garden. By giving them good cultivation and selecting seeds from the best kinds every year, this lady obtained varieties possessing remarkably fine flowers. It therefore appears possible that two growers turned their attention almost simultaneously to the improvement of the wild Pansy. Thompson's work was carried on systematically for thirty years, and he became known among flower-lovers in the south of England as "the father of the Heart's-ease." No better method could be adopted to illustrate the development of the Pansy than setting forth the diagrams at the front of this volume.

From 1814 to 1830 the florists directed their efforts to obtaining flowers of increased size and bearing more distinct markings than in any of the wild types ; and in regard to form, Thompson's own expression was they "were lengthy as a horse's head." Nothing daunted, he resolved to persevere, and was at last rewarded by obtaining "rich colouring, large size, and fine shape." Up to this time (about 1830) nothing in the way of blotches had been secured on the flowers. Blotches are the dark markings of the three lower

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petals, shown in the figure. By some growers in those days, even by Thompson himself, the blotch on the under petal was called an eye. This is erroneous, as the eye is the little yellow or golden semicircle on the under petal, on



the top of which rests the stigma. In the illustration, reproduced from the *Gardeners' Chronicle* of 1841, the flower shows the beginnings of the blotches. They had no doubt been in process of development for several years and were being fixed by selection. It is interesting to quote Thompson on this point.

Writing about his work, he says up to this time (somewhere in the thirties) "a dark eye (blotch), which is now considered one of the chief requisites in a first-rate flower, had never been seen. Indeed, such a feature had never entered my imagination, nor can I take any merit to myself for originating this peculiar property, for it was entirely the offspring of chance. In looking one morning over a collection of heaths, which had been some time neglected, I was struck, to use a vulgar expression, all of a heap, by seeing what appeared to me a miniature cat's face steadfastly gazing at me. It was the flower of a Heart's-

RISE OF THE FANCY PANSY 7

case, self-sown, and hitherto left to waste its beauty far from mortal's eye. I immediately took it up and gave it a local habitation and a name. This first child of the tribe I called Madora, and from her bosom came the seed which, after various generations, produced Victoria, who in her turn became the mother of many even more beautiful than herself." We here see the transition from the rays or pencillings on the petals, to blotches. The rays are supposed to be guide lines for insects, to guide them to the pollen and nectar of the flower. As they disappeared, would the blotches be found by the little marauders less convenient? In any case, it is a known fact that the cultivated forms of the Pansy seed less freely than the wild types.

From 1841 onwards it became the ambition of the florists to develop in the Pansy the following qualities: a perfect outline, well-defined blotches and margins, greater substance, clearer and yet deeper colours. By 1880, the heyday of the Show Pansy, these qualities were well-nigh obtained.

THE RISE OF THE FANCY PANSY

Professor V. B. Wittrock, of Stockholm, wrote as follows in the *Gardeners' Chronicle* for June 13, 1896: "In the early thirties the English Pansy was introduced into France, and was cultivated there by skilful horticulturists, who took great pains in further improving it. In Belgium they also strove to improve

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the English Pansies in the thirties, and partly in the same way as in France, without regard to the laws of beauty laid down in England." It was probably the progeny of these English Pansies which returned to this country about 1850, and became the parents of the Fancy Pansy as we know it. The first we hear of them in this country was in the year 1848, and at first they were called Belgian Pansies, presumably for the simple reason that they had a continental origin. An English nurseryman, Mr. John Salter, who had been for some time in Versailles, France, brought some Pansy seed with him on returning to England. This he sowed in his new English nursery, where the plants subsequently attracted the attention of many. In 1849 Fancy Pansies were referred to in the columns of the *Gardeners' Chronicle* for the first time. From 1851 onwards, Fancy Pansies were offered in Mr. Salter's Catalogue. In 1852 Mr. John Downie of Edinburgh, who later became the greatest raiser and grower of these flowers, is credited with having exhibited six kinds of Fancy Pansies at the Botanic Gardens, Regent's Park, London. Mr. William Dean (one of a remarkable trio of brothers, all horticultural authorities) has left it on record that to Mr. Andrew Henderson, proprietor of the Pine Apple Nurseries, London, belongs the credit of having introduced the *improved* forms of Fancy or Belgian Pansies to English growers about 1858. Mr. William Dean was

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entrusted by Mr. Henderson with the growing of these improved Fancy Pansies in his (Mr. Dean's) gardens at Shipley, and Mr. Dean grew them well and raised many new varieties. It was he who first suggested the name "Fancy," instead of "Belgian," for them.

From 1860 onward Scotland became peculiarly the home of the cultivated Pansy. The leading Scots florists devoted themselves enthusiastically to its culture and improvement. The cooler temperature of the north accounts in a large measure for the success obtained by Scotsmen, for there the large flowers develop slowly, and the full character and beauty, especially of the large Fancy varieties, are brought out to perfection. To Messrs. Downie & Laird, Messrs. Dickson & Co., Mr. William Paul, Messrs. Dobbie & Co., Mr. John Sutherland, Mr. Andrew Irvine, Mr. Matthew Campbell, Mr. Alex. Lister, Mr. John Smellie, and others, belongs the credit of placing Scotland in the forefront of Pansy culture.

The brothers William and Richard Dean, Mr. C. Turner of Slough, and Mr. Hooper of Bath were renowned Pansy men in the latter half of the last century, while Mr. William Sydenham and Mr. Septimus Pye, as growers and raisers of named varieties; and Messrs. R. H. Bath, Ltd., as pioneers in the choicest seedling strains, are well-known English growers of the present day. As raisers in past years, Mr. J. D. Stuart and Mr. Samuel M'Kee of Belfast well upheld the reputation of the "sister isle."

CHAPTER II

THE HISTORY OF VIOLAS

WHEN we come to speak of the development of the modern *Viola* we are on surer ground than in the case of the Pansy. One reason for this is that a great deal of the work has been done within living memory.

At a *Viola* Conference held at the Botanical Gardens, Birmingham, in May 1895, under the presidency of the present writer, the late Mr. Richard Dean read a paper on "Old *Violas*," which was reported in the gardening press at the time, and is reproduced here, as it is one of the most valuable contributions ever penned on the subject. Mr. Dean said: "The credit of first employing the Pansy as a bedding plant for forming lines and masses belongs, I think, to Mr. John Fleming, formerly of The Gardens, Cliveden, Maidenhead. At the time he commenced his famous spring gardening, somewhere about 1854, the distinctive term *Viola* applied only to the *odorata* section and such species as found a place in the botanical gardens. He had raised seedlings, and from them obtained the Cliveden Yellow,

Cliveden Dark Purple, and Cliveden White. What he grew as *Cliveden Blue* was a distinctively blue flower which, I was once informed, came originally from Russia, and which is now in all probability lost to cultivation. He also employed a fine white flower, named *Great Eastern*, raised by Henry Hooper of Bath, a variety which remained in cultivation many years; and also that flower which always possessed such a marked individuality of its own, the old *Magpie*, the *La Pie* of the French. *Magpie* is perhaps the oldest of the *Violas*, other than true species, in cultivation; but its origin has never been traced beyond a cornfield in France, where it was said to have been discovered growing wild. It was offered for sale by the late Mr. John Salter at what was then the *Versailles Nursery*, Hammersmith, in 1857, and since then it has been known in England under several names, such as *Mazeppa*, *Paul Pry*, and *Wonderful*.

“I think it was the publicity given to Mr. Fleming’s use of the *Pansy* through the medium of the gardening journals which induced Mr. James Grieve to commence employing *Viola lutea* and other species as seed parents as far back as 1859–60; and from what I can learn, Mr. John Baxter, Daldowie, was at that time interesting himself in a similar direction. One of Mr. Grieve’s bantlings—*Grievii*—was an excellent yellow bedder in those days, and may be in cultivation still.

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"It was the boom made with *Viola cornuta* about 1863, by Mr. John Wills, which raised this species to such a high degree of popularity. In those days summer flower gardening was much practised, and *Viola cornuta* became largely grown. From *Viola lutea* came *lutea grandiflora*, and later in point of time *lutea major* and My Yellow Boy—all capital bedding varieties in their day.

"About 1870, Mr. B. S. Williams of Holloway introduced *V. cornuta* Perfection, said to have been raised at Rotherfield Park, Hampshire. I have grave doubts on this point, as at the very time Mr. Williams was announcing he had the entire stock, I was able to buy it in quantities at Salisbury. It made a distinct advance as a bedding *Viola*, and was followed by *Enchantress*, *Sensation*, and *Admiration*, all of the same type, and showing but little difference in colour. The four varieties were of somewhat tall growth, and very subject to mildew when grown in the south.

"In 1872-73 I introduced Blue Bell. It came as a chance seedling in my little garden at West Ealing, where I do not think any form of *Viola* had been previously grown. I noticed a plant of close tufted growth spreading itself, and I let it bloom, and at once stood sponsor to it. It is essentially a bedder, and when I was at that historical mansion, Syon House, Brentford,

PLATE II
THREE FANCY PANSIES

Mrs. J. Sellars.

R. M'Kellar.

Archie Milloy.

SOME VARIETIES OF VIOLA 15

a few days ago, I found Mr. George Wythes was using it as an edging to many of his flower-beds. He said nothing in the way of a Viola he had tried would stand the heat and drought of the summer in the south like Blue Bell. About this time I got from Mr. Grieve several of the varieties he had raised, and which were figured in one of the numbers of the *Floral Magazine* for 1872, but only 'The Tory' did well in our warm southern climate. [The Tory is still grown, and is this year (1910) offered by Messrs. Grieve & Sons. It is deep blue in colour, with dark blotch.]

"One excellent variety which about this time became very popular in the south was Imperial Blue Perfection. It was quite distinct from B. S. Williams' *cornuta* Perfection; a good flower, and very free. I think it was distributed by Messrs. E. G. Henderson & Son, then of Wellington Road Nurseries, St. John's Wood.

"As far as my own seedlings were concerned, *cornuta* Perfection and *lutea grandiflora* formed the material I worked upon; Cliveden Purple Pansy was also employed. Blue Bell, Lothair, Princess Teck, and Corisande were the first four I put into commerce—all true Violas; and with these a batch of Tom Thumb Bedding Violas, very dwarf and compact in growth, producing an abundance of small, well-formed flowers—the varieties, Blue Gem, Lily White, Little Gem, Painted Lady, and Yellow Boy. These were

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all true *Violas*. I had batches of new bedding Pansies also.

"I always looked upon Dickson's Sovereign, sent out in 1874, as one of the most useful bedding *Violas* of that day. Alpha, more a Pansy than a *Viola*, came out with it, and a number of *Violas* also from the same source. In 1875 I put into commerce of my own raising Crown Jewel, Royal Blue, Lilacina, Mulberry, and White Swan—all true *Violas*; and Mr. B. S. Williams distributed Mrs. Gray—a good white variety.

"At this time the unobtrusive *Viola*, by sheer force of its inherent beauty and great usefulness, had so forced itself upon public attention that the Council of the Royal Horticultural Society originated a trial on an extensive scale at their Chiswick Gardens. A large number were sent in, two inspections were made by the Floral Committee of the Society, and the following were awarded first-class certificates of merit (chosen from the point of view of showing compactness and dwarfness of habit, profuseness and continuity of bloom, and useful and effective colours; chosen, in fact, for those special features which made them effective as bedding plants):—From Messrs. Dickson & Co.—Alpha, Golden Gem, Peach Blossom, Queen of Lilacs, Sovereign, and Tory. From Mr. R. Dean—Bedfont Yellow, Blue Bell, Lilacina, Lothair, Lily White, Tom Thumb, The Old Magpie (so named on account of the strongly contrasted

NEW VARIETIES OF VIOLA 17

colouring of the flowers), Mulberry, Princess Teck, Royal Blue, and White Swan. From Dr. Stuart—Dr. Stuart and Williams. From Messrs. James Cocker & Sons—Novelty. From Mr. G. Westland—Blue Perfection.

“A tribute is due to Dr. Stuart for his efforts to obtain new varieties, and for what he has done since with so much success. Since writing this passage, I have been informed by Dr. Stuart that he began to work at Viola-raising in 1872 or '73. He sent to Chiswick, probably in 1874 or '75, six varieties raised from crosses between *Viola cornuta* and Pansy Blue King, and received six first-class certificates. ‘These,’ says Dr. Stuart, ‘were the ancestors of my rayless section.’ Nor should my dead brother’s work be forgotten in this relation, as it is nearly twenty years since, when at Walsall, he produced his first batch of seedling Violas, including True Blue, a variety of such sterling qualities, especially as a bedding plant, that it will keep his memory green among Viola raisers, cultivators, and exhibitors for some years to come.

“What has been produced since 1878 comes within the range of contemporary knowledge, and I need not particularise further.”

The work done by Mr. James Grieve, who was for a long series of years nursery manager to Messrs. Dickson & Co., and who is now in business for himself in Edinburgh, is, viewed as a whole, the greatest of all. Mr. Grieve started in

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1862 to cross *Viola lutea* of the Pentland Hills and the ordinary Show Pansies of that day. In 1863, he tells us, he procured *Viola Amæna*, and crossed it with purple Pansies, also *Viola cornuta*, and crossed it with "Dux" Show Pansy, the best of the seedlings from this cross being named Vanguard. *Viola stricta* he next procured, and crossing it, got such varieties as Ariel, Bullion, *stricta alba*, and a number of varieties without blotches or rays. In 1867 Messrs. Dickson got six plants of *Viola cornuta* Perfection, and Mr. Grieve "crossed every bloom with everything he could lay his hands on," and had 700 seedlings as a result, among which were Tory, Lilacina, Canary, Holyrood, &c. Grievii, pallida, and Golden Gem were raised from *Viola lutea*. Sovereign, so long and favourably known, was the result of a cross between Golden Gem and Golden Bedder, a yellow Show Pansy sent out by E. J. Henderson & Son, London. When it is mentioned that, in addition to the varieties named above, Stanley, Mary Gilbert, Dorothy Tennant, Royalty, Souvenir, Virginalis, and Merchiston Castle were raised and sent out by Messrs. Dickson & Co., it will be realised how important was the work of Messrs. Dickson and Mr. Grieve in the earlier days of the *Viola*.

Another raiser who worked contemporaneously with Mr. Grieve was the late Mr. John Baxter, gardener to Colonel M'Call of Daldowie near Glasgow. Many of his seedlings were introduced by Messrs. Dobbie & Co., Rothesay, and

VIOLAS OR TUFTED PANSIES 19

now of Edinburgh, who have long been associated with Viola culture.

The late Dr. Charles Stuart of Chirnside, Berwickshire, was all his life an ardent florist and a successful raiser of Polyanthi, Aquilegias (*Aquilegia Stuartii*), and Violas. In a volume on Pansies and Violas published in 1898 by Messrs. Dobbie & Co., Dr. Stuart gave a short account of his experience as a raiser, which is here reproduced :—

A FEW NOTES ON VIOLAS OR TUFTED PANSIES

“In 1874 I took pollen from a garden Pansy named Blue King, a bedding variety then in fashion, and applied it to the pistil of *Viola cornuta*, a Pyrenean species. There was a podful of seed, which produced twelve plants, which were well taken care of. The next season they flowered and were all blue in colour, but with a good tufted habit. I again took pollen from a pink garden Pansy and fertilised the flowers of my first cross, with a limited success. The seed from this cross gave me more variety in colour of flower, and the same tufted habit of growth, which evidently came from the *Viola cornuta* influence. The best of this cross were propagated and grown, some of the plants being sent to the Royal Horticultural Society's Gardens at Chiswick for trial, after an invitation to all

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Viola growers to send their best there, to see how they would thrive in a southern climate. After being in the ground for some time, I received a letter from a member of the Floral Committee inquiring how they had been raised, as they were entirely different in growth from all the others sent in. In reply I told exactly what I have already stated, and heard no more of the matter till the autumn of 1875. I was rather surprised when informed that I had got six first-class certificates and was first in the competition, Messrs. Dickson & Co. of Edinburgh being second. Nothing more was done at this time, beyond growing the plants I had already raised, and sowing the seed from them in a bed broadcast. They were all more or less rayed. A floral ally, seeing one of these certificated plants, a fine white Self, remarked: 'If you could only get that flower without rays in the centre, I think it would be a great improvement.' Keeping a sharp look-out on the seed-beds, it was ten years before I succeeded in finding a really rayless Viola. In the year of Queen Victoria's Jubilee, while walking round the seed-bed, I saw what I had been seeking for, in a pure-white, rayless Self. The plant was there and then pulled to pieces, and every bit propagated. It was a warm, summer night, and the perfume from the blooms at once attracted my attention. The next season I had a little plantation of the rayless Self and a wealth of blooms. A box of them was sent to Mr. Robinson, the editor of

VIOLAS OR TUFTED PANSIES 21

the *Garden*, who at once recognised a new strain, and promised to figure the variety in the *Garden*. Such is the true history of Violetta, one of the most popular of the rayless tufted Pansy family. Violetta has proved the mother of thousands of a rayless race, some better, some worse than the parent. Violetta pollen crossed with a white Self with a few rays gave Sylvia, too well known to require description. Sylvia crossed with a Peacock Pansy gave me Border Witch—a singular flower, which, in its best dress, in moist weather is very striking. I found, however, that this Pansy crossing was too much, for out of a hundred and fifty seedlings Border Witch was the only one without rays. Mr. Robinson has more than any one advanced the strain of rayless Violas. Many of them have been figured in the *Garden* and in other magazines, and he put me under a deep debt of gratitude in dedicating a volume of his beautiful publication to a humble amateur in acknowledgment of original work."

In hybridising or crossing wild varieties of Violas, it is necessary that the pollen should be taken from the cultivated species of Pansy and dusted over the pistil; that is, the wild species should be the mother. Pollen taken from *V. cornuta*, for instance, will, if put on the common Garden Pansy, only give seed which will produce Bedding Pansies, not the sturdy, tufted-rooted, dwarf strain, which Violetta now represents.

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The work of progression has in recent years been carried forward by many growers whose names are known to all in the horticultural world. Among so many it is almost invidious to set forth any, but to Mr. William Sydenham, Mr. D. B. Crane, to Messrs. Dobbie & Co., and Messrs. James Grieve & Sons, no one will deny honourable mention.

There is another factor which has largely aided the popularity of the *Viola*, and that is the persistent and consistent advocacy of its claims in the horticultural press. The wonderful exhibitions, too, of collections of blooms, made by the leading growers at the principal flower-shows, have brought the new varieties prominently before all lovers of flowers. The Royal Horticultural Society has conducted trials, in the Wisley Gardens, of all known varieties of *Viola* from time to time, and has sent out Reports recommending the best. These Reports are published in the Society's Journal, and may be purchased by all interested in the subject.

CHAPTER III

PANSIES AND VIOLAS FROM SEED

*"There are divine things well envelop'd,
I swear to you there are divine things more beautiful than words can tell."*

THE raising of seedlings of any plant is always interesting, because it is from seed that most new varieties are obtained; therefore the amateur has a chance, provided he is growing a good strain, of obtaining some new colour or form. The question of what sort of seed it is best to sow is one of the first to present itself, but it cannot be decided satisfactorily until the grower has a clear idea as to what object the plants are intended to serve. If the plants are wanted to form a mixed bed of Pansies or to dot along a mixed border, the best Fancy Pansy seed obtainable should be sown. If they are needed for beds of one colour or for lines of one colour, Violas should certainly be chosen, and all the leading seed merchants make a speciality of supplying seed in different colours. In the purchasing of Pansy or Viola seed, always avoid what is cheap, otherwise all the labour and care is likely to end in disappointment. The best Pansies and Violas do not seed freely, and therefore the best seed can never be plentiful.

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Time to Sow.—Pansies and Violas are so amenable to cultivation that, given careful treatment, they can be sown at any time with a fair prospect of success, but, to obtain the best results, they should be sown in April or May, in boxes placed either in a cool greenhouse or frame. The boxes should be covered with a sheet of glass, and the seed ought to be sown thinly, so that the plants may be allowed to remain in the boxes till they are sturdy little fellows with fine healthy leaves about an inch in diameter. In June, or early in July, the seedlings must be transplanted to a prepared frame or bed in the open. This may be ordinary garden soil to which has been added some old, well decomposed manure or leaf-mould; and, if the soil is of a tenacious character some sand may be added, but not otherwise. Plant the seedlings in it three or four inches apart, and give careful attention to watering; if the position is fully exposed to the sun some shading will be required. Shortly after the plants become established blooms will begin to appear, but these should be removed, as the special object in view is to obtain strong healthy plants to put out into their flowering quarters in September. Seedlings raised in this way will invariably stand the winter well in the open, except in the most exposed positions. Where it is desired to have a display in such a position, the plants should be left where they can have a little protection by means of a sash or otherwise during the winter, and be

PLATE III
THREE FANCY PANSIES

Miss Neil.

Margaret Fife.

Mrs. J. Stewart.

moved into their flowering positions in March. One great advantage of the treatment here recommended is that plants are obtained with a great mass of fibrous roots, and when moved it is rare that even a single plant fails. If planting is done in September, growth will continue all through the winter months whenever the weather is mild, and by the time the plants begin to bloom in April and May they will be fine clumps, several inches in diameter, capable of producing large, beautiful flowers. They will continue for several months to flower, and in July or August the "old wood," or, more properly, the strong shoots, which have flowered should be cut away, and the young fresh shoots in the centre of the plant left to continue the flowering. Treated thus, most of the plants will bloom again in autumn, and even stand over another winter. Any specially meritorious variety can be propagated by cuttings, as recommended in another chapter, just the same as named varieties.

CHAPTER IV

CULTIVATION FROM CUTTINGS

*"Nature does require
Her time of preservation."*

AN enthusiastic Pansy grower used to say that the same laws held good in the plant world as in the animal world, and there is far more in the old gentleman's remark than appears on the surface. If healthy, robust children, or healthy, robust chickens are desired, it is well to be careful about the parentage. Exactly so with Pansies and Violas. It gives the grower an enormous advantage if he can start with healthy, young plants. If he is quite a beginner he may either have to purchase his plants from a nurseryman, or obtain cuttings from a friend and strike (the gardening term for "root") them himself. Let us, in the first place, assume that the latter method is adopted.

During the early summer months he probably visited his friend's garden, jotted down the varieties he liked best, and doubtless bespoke some cuttings at the proper time. What is the proper time? Any time from July onwards. If the plants are wanted for autumn planting and early blooming,

CULTIVATION FROM CUTTINGS 29

the earlier the cuttings are put in the better. In the south of England, where the atmosphere is dry and the sun often scorching in July, more care must be exercised to obtain successful "strikes" than in the cooler atmosphere of the north. It is well, in the south, to select a position facing west, north-west, or north-east for the frame. Do not let any one be frightened by the mention of a frame ; it is merely advocated for ensuring safety and security. The simplest way to make one is to procure some boards, 9 or 10 inches broad, and nail them strongly together at the corners so as to make a box, without top or bottom, of course, exactly the width of the sash, and 2 inches shorter. The sash may be any size that is most convenient. The orthodox frame is 6 feet by 4 feet, but a smaller size is handier for the amateur. The frame should have guides nailed on the sides, so that the sash can be moved up and down with safety. The frame must be placed on the soil so that it slopes gently from back to front. This can easily be done by sinking the front of the frame 3 inches into the soil. Much depends on the nature of the soil what preparation is required to be made for the cuttings. If it is free and well drained it will only require a little sharp sand well incorporated with it to make an ideal bed. If, however, it is strong clay, it must be removed to the depth of 9 inches and the bottom dug with a fork to give drainage, and the space thereafter filled up with some free soil or compost—old

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potting soil or anything of that nature passed through an inch sieve will do well. This soil should be made up to within 6 inches of the glass, and it should be given the same slope as the glass. We will suppose everything is in readiness for a start as follows : If the frame is a big one, a piece of broad board to stand or kneel on ; a straight-edge to make the lines ; a dibber ; and some freshly painted 6-inch labels. The beginner has perhaps to step over to his friend's garden for the cuttings. He takes the labels with him and gets twelve, twenty, or more cuttings of a variety of a *Viola* for bedding, or perhaps only one or two, if it happens to be a new and choice variety. In the case of Show and Fancy Pansies, which are treated exactly as we are describing, some half-dozen cuttings of each variety is usually considered ample. The cuttings themselves ought to be taken from the most vigorous plants, and they ought to be root cuttings, which are short growths pulled from the centre of the plant. Only if they are too long should they be cut obliquely across, close under a joint, with a sharp knife. If the shorter ones come away with a portion of the white underground growth, they require no cutting except to remove anything ragged at the base. Many of the growths so pulled out will have little rootlets attached, and in olden days these used to be called "Highlandman's cuttings."

In taking cuttings, always write the label or tally first, and as soon as the cuttings are taken off, tie them and the label securely, but not too firmly, together. Take them to the frame in which they are to be inserted as soon as possible, and put them in the shade. If the operator is a real gardener he will take off his coat and put the little bundles of cuttings carefully under it. Open one bundle and insert the label at the bottom left-hand corner of the frame, and put in the cuttings in a row behind it, working up the frame at about 3 inches from the edge and about 3 inches between each cutting, which should be inserted with the dibber about an inch and a half deep, and made very firm at the base—so firm that it can hardly be pulled out. This is one of the great secrets of success in striking all sorts of cuttings. When a variety is finished, leave a space of 6 inches, then insert another label, and go on as before, dibbling in the cuttings behind the label. When the first row is finished, mark another row with the straight-edge by pressing it into the soil 3 or 4 inches away from the first row. Come right to the bottom of the frame again and work up as before. After all have been inserted, give a thorough drenching with water from a watering-pot with a fine rose. Shut up the frame quite close, and if it is in a position to get direct sunshine the simplest way to obviate danger of the cuttings getting shrivelled is to give the inside of the glass a coat of thin whitewash.

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For about ten days, unless the weather is very hot and sunny, the sash may be kept almost continuously closed, giving slight dewy waterings if the surface soil gets dry. After the first eight or ten days it will be advisable to begin to give air by raising the sash 1 or 2 inches at the back for the first week, and increasing it to 3 or 4 inches the second week. As soon as the cuttings show evidence of having made roots, the whitewash must be washed off the glass, and more air given until the sashes are removed altogether, not to be replaced again if the plants are for autumn-planting; but if for spring-planting they will require the protection of the sashes in severe weather in winter, especially if the cuttings are from fine varieties of Pansies.

Propagating Out-of-doors.—One of the most noted and successful cultivators, Mr. J. F. McLeod, gardener to J. Pierpont Morgan, Esq., of Dover House, Rochampton, propagates all his *Violas* out-of-doors; and such was largely the practice of the late talented superintendent of Regent's and Hyde Parks, Mr. Charles Jordan. For this purpose a border facing west or north-west is chosen, and it is prepared much the same way as recommended in the foregoing pages for the frame. Cuttings are inserted in a similar way, and a very large proportion are found to strike. This plan has much to recommend it when large quantities, hundreds, even thousands, of one variety are required, and with the hardy

PROPAGATION BY DIVISION 33

popular Bedding Violas 90 to 95 per cent. will root and make good plants ; but choice varieties of Violas, and especially Pansies, cannot be rooted in this way with any degree of certainty. We advised the frame for safety at the beginning, and we repeat the advice, because the small cultivator, who has only a few dozen, or at the most a few hundred, plants cannot take the risks from cats and other vermin that frequent suburban gardens. We only bracket cats and other vermin together from a gardener's point of view.

Propagation by Division of the Plants.—This method is very often adopted for the purpose of obtaining large plants for autumn planting. It was largely practised by the late Mr. Jordan in Regent's Park. He related that he had some 25,000 plants to propagate each year, and he obtained them with the greatest facility. It was the practice in Mr. Jordan's time to fill the huge beds in Regent's Park with bulbs and Violas ; as the bulbs passed out of bloom the Violas came into flower, and an effective display was obtained during April, May, and June. At the end of June, or early in July, the beds were cleared both of bulbs and Violas and filled with summer-blooming plants just coming into flower. When the Viola plants were lifted the old growths were trimmed away, and the clumps pulled into three or four pieces, which were planted in nursery beds in the open. It will be easily understood how, provided these nursery beds

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were shaded and attended to with water, fine strong clumps of *Violas* would be obtained for planting again with the bulbs in October. In a future chapter will be found a list of the varieties which, being more tufted and perennial in habit, lend themselves best to division.

CHAPTER V

CULTIVATION OF CHOICE FLOWERS FOR EXHIBITION AND OTHER PURPOSES

"Are not Pansies emblems meet for thoughts?
The pure, the chequer'd-gay and deep by turns:
A line for every mood, the bright things wear
In their soft velvet coat."

THE cultivation of the choicest flowers is an entirely different matter from ordinary border-culture. To obtain such flowers as are frequently seen at the flower-shows, measuring 3 inches to 3½ inches in diameter, of splendid colours and beautiful form, requires very skilful culture. In the chapter on the rooting or striking of cuttings, everything that is necessary to know about raising the plants is related in full. In this chapter will be described the preparation of the beds to receive the young plants, and the treatment to be given them afterwards. In the large nurseries where Pansies and Violas are grown for exhibition purposes, it is usual to have long beds about 6 feet wide, so that the plants can easily be protected by being "sashed"—that is, by sashes or lights being placed over the beds, to protect them from storms—a week or so before the flowers are

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required. The sashes are usually shaded with whitewash to prevent the blooms being scorched by the sun. The small grower will find it advisable to grow his plants in much narrower beds, it being more convenient to protect individual flowers rather than entire beds of them. To begin at the beginning, the site of the Pansy or Viola bed should be decided upon in the autumn, and it should then be deeply cultivated and manured liberally with good cow, or horse manure. The edges should be nicely trimmed, but the surface ought to be left rough to the winter weather. The situation of the bed should not be one that is exposed directly to the full rays of the noonday sun, especially in gardens in the southern counties.

In dry weather in January or February the beds should be given a good dusting of soot and bone meal. Don't lay it on half an inch thick, but sprinkle it so that the ground is just thinly powdered. If there is some leaf-mould about, or thoroughly decomposed manure, it might be passed through an inch sieve and also scattered over the top of the bed. The beds should, after these things are applied, be turned over to the depth of 9 or 10 inches with a digging fork, so that the ingredients will be thoroughly incorporated with the soil. The bed or beds should again be trimmed up, as this is the last attention they will require before planting is done in the latter half of March or very early in April. If the grower has the plants beside him in

FLOWERS FOR EXHIBITION 37

a frame, he can choose his own time better than if he is obtaining them from a nursery. The bed should be marked off in lines 12 to 15 inches apart, the plants being placed in these lines about 9 inches apart from each other. If the beds are narrow, it is well to arrange to have one or two lines of each variety, which brings all the labels along the front of the bed; a broad board should be placed across the bed, on which the planter should stand when planting. With an ordinary garden trowel a hole must be scooped out about 4 inches in depth, the plant laid carefully in, and made firm by the aid of the fingers. All blooms and buds which may be on the plant at planting time should be removed, and if there is the slightest trace of green or brown fly on the plants, each plant should be dipped in a solution of soft soap and water—2 oz. of soap to one gallon of water—before being planted. The plant ought, of course, to be turned upside down and the foliage only immersed, not the roots. Watering after planting will depend entirely on the weather conditions which prevail. If showers are plentiful no artificial watering may be required, but otherwise the plants must be watered frequently. No definite instructions can be given regarding this, but the grower's own judgment must be his guide. The chief object to be kept in view is to get the plants to start away quickly into strong and vigorous growth. Vigorous plants are seldom attacked by insects. People used

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to say that aphides came with the east wind in spring, but it is now well known they make their appearance when the plant has its growth checked by adverse influences. The best and safest cure is the solution of soft soap referred to above, to which has been added some quassia made by boiling quassia chips in water. This preparation can either be applied with a syringe, or, if only a few plants are to be dealt with, the liquid can be dropped from a sponge into the centre of the plants, where the fly mostly lodges. If the leaves are seen to curl, the plants ought to be examined at once, as more than likely the flies are doing the mischief and must be got rid of without delay.

Slugs or small snails frequently cause serious loss among newly planted Pansies and Violas by eating them partly through just at the surface of the soil. If there is any reason for thinking the ground is infested with slugs, it should be dusted with powdered, newly slaked lime once or twice before planting, on an evening after dark, when the weather is mild. After the beds are planted the only safe cure is hunting for the depredators with a lantern after dark, removing them and killing them. As has been already recommended, flowers and buds should be removed when planting, and no flowers should be left to develop until the plants are getting well established. Not more than four growths ought to be allowed to develop on each plant. These

PROTECTING PANSY BLOOMS 39

growths, as they get long, must either be pegged down or tied to short stakes inserted in the ground for the purpose. Discontinue removing the flower buds three or four weeks before the flowers are wanted for the show, and the result will be a crop of large, richly coloured blossoms. Pansy blooms are often disfigured by dirt which is splashed upon them by heavy rains. It must be remembered that they are lowly flowers growing very near to the ground, which is one of the reasons why they require to be covered by any contrivance which will prevent them getting bespattered. Many quaint and curious plans are adopted for this purpose, but a penny earthenware bowl supported in a cleft in an inch-square stick is as effectual as any. The writer has seen many hundreds of beautiful blooms taken from beneath such covers, to be shown with pride and satisfaction by their cultivators.

It is necessary to caution growers that slugs and snails are just as fond of the blooms as they are of the green plants, for nothing is more disappointing than the disfigurement of an otherwise perfect bloom by a half-circle eaten out of its side by a slug. Plants must never be dosed with soft soap or any other soluble insecticide just previous to a show, as such would ruin all the buds by bleaching them. If fly appears, the centre of the plants can be lightly dusted with the best

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tobacco powder, or the soap solution can be dropped into them with the greatest care from a small sponge.

To procure fine flowers of Violas and Pansies in quantity for other than competitive purposes, the grower could not do better than follow the instructions given in this chapter, but he need not thin and disbud quite so severely. He will no doubt be satisfied with flowers $2\frac{1}{2}$ inches in diameter if these are produced in abundance, whereas the competitor, on the contrary, wants only a few dozen blooms, but each specimen must be 3 to $3\frac{1}{2}$ inches in diameter, and of great substance, if they are to win prizes. All through the spring and early summer, the surface of the beds must be kept clean and friable by being frequently hoed or moved with a small hand-fork. In June, a top-dressing should be applied, in order to get the plants to flower well throughout the summer. Before applying the top-dressing the surface soil should be loosened and all weeds removed; then a sprinkling of a good artificial manure should be dusted between the rows, and on the top of that the top-dressing should be spread one inch deep, or rather more. This top-dressing is usually a compost consisting of thoroughly decayed manure mixed with a small proportion of soil and passed through a sieve with one-inch mesh. This treatment serves to keep the roots cool, and it encourages the plants to continue

growing through the summer. The dressing is also most useful to the support of the young growths, which will come up in the centre of the plants later, and make the best cuttings to propagate the stock for another year.

Liquid Manure.—This is used by many good growers, and when applied judiciously it has a wonderful effect in heightening the brilliancy of the colours. Many different plans are adopted to make it. Dissolving artificial manures in the proportions recommended by the various makers is one way, but the old-fashioned method is hard to beat if it can be carried out. Gather a peck of sheep's dung and place it in a canvas bag; then put the bag in a 30-gallon cask of water; another small bag filled with soot should also be placed in the cask. The goodness from the dung and soot will soon get into the water. When this liquid has been used, fill up the cask again with water (the dung and soot will last for weeks before requiring renewing), and stir the liquid with a pole. A good watering once a week with this manure-water will be most beneficial to the plants.

We have assumed that the grower is dealing with plants which he has propagated himself, and therefore has beside him in a frame, so that planting out can be done at the most opportune moment, and the plants can be lifted with fine balls of soil attached to the roots. With young plants received from a nursery rather

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more care must be exercised. These plants should be planted in the evening, and on the following day an inverted flower-pot should be placed over each, removing it at night unless frost is likely to occur, when it should be allowed to remain. This treatment for two or three days is usually sufficient to get the plants established in their new home. With such plants it is, however, even more necessary than with others to keep the flower-buds pinched, so that all the plant's strength may go towards increasing the root-action.

This chapter has been written solely with one object in view, that of giving instructions how to grow the choicest varieties of Violas and Pansies in such a way as to obtain with certainty the finest flowers ; for this reason spring-planting only has been recommended. In days long past Pansies for exhibition were nearly all grown in pots in frames, after the manner of Auriculas. They were potted up in the autumn, and attended to through the winter in the frames with great solicitation and care. In May, the plant produced perfect blooms of the old English Show Pansy, and similar treatment would be followed by excellent results at the present day ; but the practice has fallen out of favour, and the cultivation in beds, as here recommended, has superseded it.

STAGING THE FLOWERS

There is no better method of acquiring the knowledge of how best to set up Pansies and Violas for show, than by visiting an exhibition and observing how the work is done by prize-winning growers. Pansies are generally exhibited on flat trays made for the purpose. Sometimes six, sometimes twelve, and occasionally twenty-four blooms are asked for in a competition. The flowers are inserted in the trays so that they assume an almost horizontal position, and their points or qualities can easily be seen by the judges. In some districts the bloom is first fitted into a paper collar, and held in position by a small pin being passed through the stem behind the collar. This makes the staging easier, but the practice is condemned by many lovers of these flowers. Violas are usually set up in flat sprays of six or nine blooms, but at some shows, notably at the Wolverhampton Floral Fête, they are splendidly arranged in wide-mouthed dwarf jars. In staging there is much room for an exhibitor to show his taste and skill, and it often happens that a clever stager gains points over a less capable one who has better flowers. Flowers intended for exhibition should be large, well formed, well marked, of good substance, fresh and clean. The names should be legibly written (or printed) on small neat labels.

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PANSIES AND VIOLAS IN A GREENHOUSE IN SPRING

On a previous page reference was made to the old custom of growing Pansies in pots in frames. To those who wish to get a great amount of beauty and pleasure with comparatively little trouble, the growing of Pansies or Violas—especially the latter—for spring blooming in a cool greenhouse or conservatory is strongly recommended. In the month of October, healthy, young plants which have been propagated from summer cuttings, should be potted in a compost of good loam and leaf-mould, with a little coarse sand to keep the mixture sweet. Single plants may be put into four-inch pots, but a better effect is obtained by putting three plants into a five-inch pot. They should be grown in a cold frame through the winter, admitting air almost continuously, as success depends largely on keeping the plants dwarf and stubby. During severe frost mats should be placed over the frame to prevent, if possible, the soil and roots getting frozen. Very little water will be required, especially if the pots are plunged in ashes or fibre. Towards the end of January, remove the pots to a cool greenhouse or conservatory, where they will soon commence to bloom, and yield charming flowers through March and April. Any of the named Pansies and Violas

PLATE IV
FOUR FANCY VIOLAS

Louie Granger.

Kate Houston.

Mrs. Chichester.

Duke of Argyle.

are suitable for treatment in this way, but Violas with clear self colours are always most appreciated, and they give the best results.

VIOLAS FOR BEDDING AND MASSING

These are sometimes wanted in very large quantities, and there are the three methods of obtaining them—from seed, from cuttings, and from division of the old plants. How to obtain a stock by either method is explained in preceding pages. The possibilities in massing and bedding are so great that these remarks are offered only as suggestions. It is desirable to avoid planting in straight lines. When Violas are employed for an edging to wide borders, an irregular line in the inside should be followed, so that the occupants of the border may extend forward amongst the Violas at different points. If one *will* have a ribbon border of Violas, let nothing else be associated with them, and let the varieties be most carefully selected for the purpose. The following arrangement would be very effective, as the varieties would all bloom at the same time and the height would gradually rise towards the back row:—
Front row, Seagull or Violetta, white ; second row, Jubilee, purple ; third row, Mrs. E. A. Cade, deep primrose ; fourth row, Blue Rock, blue ; fifth row, Kingcup, yellow ; sixth row, Bridal Morn, deep lavender ; seventh row, Snowflake, white. Few people, however, are likely to want anything

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quite so formal as this, therefore it may be said that the same varieties planted in patches through a large border are much more pleasing.

It is a wise and popular practice to use *Violas* as a groundwork for other plants. If they are planted in autumn along with bulbs, many charming combinations can be made. It is only necessary to suggest crimson or cardinal late flowering *Tulips* on a groundwork of white, cream, or pale-yellow *Violas* ; Emperor *Narcissus* planted thickly among violet or purple coloured *Violas* ; pale-blue Spanish *Iris* and cream *Violas* ; yellow Spanish *Iris* and white *Violas* ; Spanish *Iris* "Thunderbolt" and lavender coloured *Violas*. Other combinations rise up before the mind—blood-red Wall-flower with cream *Violas*, and Canterbury Bells with *Violas*.

In June, it is often possible to remove the bulbs and leave the *Violas*. Then cut away the old growths from the *Violas* and replant the beds with summer-flowering plants from pots, such as *Pelargoniums*, *Celosias*, and *Fuchsias*. When treated in this way the *Viola* plants continue blooming throughout the summer. A little reflection will show that numberless combinations can be obtained, but the plans must be made well in advance if success is to be assured.

Violas are used very largely as a groundwork for *Rose* beds, and here again they are most effective when used in beds which contain distinct varieties of *Roses*, associating with the *Roses* such *Violas* as will harmonise with them.

VIOLAS FOR BEDDING 49

It is not necessary to say much about the special preparation of beds, because beds which are prepared for bulb culture in September will invariably grow Violas well. In Rose beds there are more difficulties to contend with, and Violas with a dwarf or creeping character should be selected for planting as early as possible after the Rose beds have been dressed for the winter. In combinations of this kind it is best to employ only well-tried varieties, it being unwise to risk failure. New varieties often prove disappointing, and in every case they should be experimented with in a small way before they are employed on a large scale. One can never go wrong with Snowflake, White Beauty, Duchess of York, Pencaitland, and Sylvia among whites; Ardwell Gem and Sulphurea among primrose shades; Kingcup, Klondyke, Grievii, Redbraes Yellow, and Walter Welsh among yellows; Florizel and Kitty Bell among lavenders; Lilacina (Bedding Pansy), Maggie Mott, Blue Duchess, and Favourite among blues; and True Blue, Councillor Waters, and Archibald Grant among dark blues.

CHAPTER VI

PANSIES AND VIOLAS FOR TABLE DECORATION

"Jove's own floweret where three colours meet."

IF Pansies and Violas are to be grown specially for this purpose, varieties should be selected which produce flowers with long stems and are clear and distinct in colour. The blooms should always be gathered in the early morning and placed for an hour or two in jars of water in a cool, shady position. This will cause them to become stiff and firm and much more easily handled. Pansies and Violas associate well with almost any light, green foliage, but nothing is so suitable as their own foliage when that can be procured bright and fresh and of good colour. A number of strong-growing seedlings are often cultivated for their foliage alone, and this practice is to be recommended, as there is then no necessity to cut from choice varieties. There are no receptacles so suitable for table adornment as clear glass or crystal vases, and these should be rather short and wide. A most appropriate centre-piece may be formed with several small, rather wide, trumpet-shaped vases. The foliage sprays should be inserted first, and

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the flowers then placed in carefully, so as to face whatever direction is required. If some flowers have a tendency to twist about, this can be remedied by pushing a piece of thin wire up the inside of the stem and allowing it to project half an inch. This projection can usually be inserted into a piece of foliage or stem, and the flower thus retained in the desired position. Colour schemes must, of course, be worked out with what is available. In Violas, for example, charming combinations can be worked in cream and lavender; in white and dark violet; in yellow and cream; and in mauve and white. Large, fine blooms of Fancy Pansies are always admired on a table, and when well arranged no combination can be more attractive.

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Pansy and Viola flowers are so frequently visited by insects that they never produce seed true to variety if grown in mixed beds or in proximity to other varieties. It is nevertheless the case that seeds can be purchased which come fairly true to colour. These are produced by planting large batches of one variety in isolated positions. Intending purchasers are often disappointed when they are told by the nurseryman or seedsman that they cannot have seeds of special varieties, say of fine Fancy Pansies. The nurseryman could gather seeds from such varieties, but they would

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not come true. There is no other method of propagation than by cuttings to perpetuate distinct varieties true to character. The raising of new varieties is a very interesting pursuit, and it can be carried out by any amateur. If a mixed bed of Pansies is being grown, seeds should only be saved from the very choicest varieties. If, in the case of *Violas*, a new white variety, for example, is desired, a few plants of two or three of the best white varieties obtainable should be planted in an isolated corner of the garden, and seeds saved from them. Both Pansies and *Violas* are visited by bees, moths, beetles, and flies, either in search of nectar, which is to be found in the spur behind the lower petal, or to feed on the pollen which drops out of the anthers into the hairy groove formed where the spur joins the petal. Making these visitations, the insects carry pollen from one flower to the other, and the lip-like arrangement on the point of the stigma lends itself admirably to cross-fertilisation. The lip is viscid on the upper side, and pollen brought by an insect from a previously visited flower easily adheres to it. It is possible, of course, to fertilise by hand, but to obtain satisfactory results plants must be grown in pots and protected from insect visitors at the crucial time by screens of fine netting. The blooms require to be emasculated at a very early stage—an operation of extreme delicacy. If insects are excluded and hand fertilisation is not practised, few, if any, seeds will be ob-

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tained. This points to another method of cross-fertilisation which has been successfully adopted. The blooms are secured in an upright position to short sticks at an early stage of their development. Held in this position, and insects being excluded, they cannot become either cross or self pollinated except by hand. If the desired pollen is carefully applied to the viscid lip of the stigma at the right time, a true cross is obtained without emasculation. Raisers are working for new colours and improved habits, and there is plenty of room for improvement in these directions.

CHAPTER VII

FANCY OR DECORATIVE PANSIES

“There’s Pansies, that’s for thoughts.”

THE following selection includes fifty of the best, named varieties. All are good growers and capable of producing large and beautiful flowers on long stems :—

Alexander B. Douglas has glossy black blotches margined with crimson and white.

A. H. Martin is a purple blotched flower belted with yellow ; the top petals are reddish purple shaded with yellow.

Archd. Milloy (Lister). This has dark, violet blotches margined with chrome yellow and rose ; the top petals are yellow and rose with violet base.

Coronation (Smellie) has plum-coloured blotches, edged with a creamy white ; upper petals cream, heavily edged with violet.

Duke of Argyle (Ollar), a flower marked with large, dark blotches, edged with lemon-yellow and rose ; the upper petals are dark purple suffused with rose.

David Wilson (Dobbie), a violet blotched variety belted with

crimson and white ; the upper petals are the same as margins.

Emmie Bateman (Dobbie), a large creamy white self, with dense, violet blotches and slight edging of yellow on lower petals.

Everard Jones (Dobbie). This flower is a shade of canary yellow, being rather lighter on upper petals, with large, very dark blotches ; the top petals are occasionally marbled with rosy purple.

Holroyd Paul (Dobbie), a finely blotched flower edged with yellow and pink ; the upper petals are bronze and pink.

Hugh Mitchell (Dobbie). This has large, violet blotches, with edgings of sulphur flushed and margined with blue.

James M'Nab (Dobbie), a densely blotched variety, edged with yellow ; the upper petals are deep yellow.

Jenny Morris (Kay). This has large, circular, blue blotches, with margins and top petals light crimson.

John Harle (Lister), a dark, bronzy-purple, blotched variety, with clean-cut margins of creamy white ; the top petals are creamy white, shaded with dark purple.

John Picken (Smellie). This flower has large smooth blotches, edged with bronzy-yellow and pink ; the upper petals are bronze and pink.

King Edward (Dunsmore), a flower with deep maroon blotches, edging of mulberry, and belting of yellow ;

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the top petals are white, with heavy belting of purple maroon, and white, wire-like edging.

Lawton Wingate (Kay), dark crimson blotches, margined with yellow and crimson ; upper petals yellow, margined crimson.

Mrs. R. P. Butler (Dobbie) has dark violet, well-formed blotches ; the edges are creamy-white, mottled with purple crimson, and the upper petals are cream and purple-crimson.

Mrs. Campbell (Dobbie), a grand, yellow self of the same shade throughout, with immense, circular-shaped, claret-coloured blotches.

Mrs. Ferguson (Kay) has circular, dark-crimson blotches, margined with straw colour ; the top petals are reddish-violet.

Mrs. R. Fife (Dobbie) has crimson-purple blotches, edged with crimson and white ; the upper petals are French white, with a band of crimson lake.

Mrs. S. Mitchell (Kay), a bright-yellow flower, with brownish-black blotches.

Mrs. M'Alpine (Dobbie), a large, white flower, with very dark blotches of first-rate form.

Mrs. Macfadyen (Dobbie) has chocolate-coloured blotches, belted with bright yellow and rose ; upper petals yellow and rose.

Mrs. J. Sellars (Lister). This flower has large, violet blotches, with broad margins of primrose yellow ; the top petals are pale yellow with base of dark violet,

Mrs. James Smith (Dobbie) has very dark blotches, and white belting mottled with crimson ; the upper petals are white with crimson edging.

Mrs. James Stewart (Kay) has large, blue blotches, margined with white ; the top petals are purple and white.

Miss Albinia Brown Douglas (Kay), a flower with dense blotches, edged with crimson and white, the top petals being magenta.

Miss Neil (Smellie) has immense, velvety blotches, edged white and bright crimson ; upper petals are white, pencilled with purple and crimson.

Mr. B. Wellbourne (Kay), a flower with large brown-black blotches, laced with primrose ; the upper petals are bluish drab.

Madge Montgomery (Dobbie) has claret-coloured blotches, with creamy-white edges ; the top petals are claret, with slight cream edging.

Margaret Fife (Dobbie), a flower with blue-black blotches edged with creamy-white, the upper petals being bluish-purple.

Mary D. Fitzpatrick, violet blotches edged with pure white ; top petals white, veined violet.

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Mary Kay (Kay) has large, circular, violet blotches, margined with white ; the upper petals are violet and white.

Meg Walker (Dobbie). This flower has bluish-mauve blotches, edged with pure white ; the upper petals are crimson-purple.

Neil M'Kay (Smellie) has large, circular blotches, edged with golden yellow ; the top petals are golden yellow flaked with crimson.

Nellie Campbell (Paul), a variety with large circular blotches laced with primrose ; the upper petals are blotched with black and laced with primrose.

R. C. Dickson (Kay) has dark crimson blotches, with margins and top petals cream, spotted with rose.

Robert Logan (Dobbie) has dark, mulberry - coloured blotches, laced with golden yellow and bronze ; the upper petals are shades of mulberry, yellow, and bronze.

Robert M'Caughie (Lister) has violet blotches, margined with sulphur-yellow and edged with dark rose ; the upper petals are sulphur-coloured, but heavily edged with dark rose.

Robert M'Kellar (Dobbie). This flower has large, black blotches, heavily margined with yellow ; the upper petals are yellow, with a heavy band of purple-violet.

PLATE V
FOUR WHITE RAYLESS VIOLAS

Mad. A. Gray.

Purity.

Snowflake.

Mrs. H. Pearce.



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Robert White (Kay) has glossy black blotches, laced with bright yellow ; the upper petals are yellow.

Rev. D. R. Williamson (Dobbie), a flower with large, velvety blotches, belted with clear yellow.

Tom M'Callum (Lister) has dense, plum-coloured blotches, the margins being of light chrome-yellow with rose, light-purple, and carmine shadings ; the top petals are an enchanting shade of violet, with whitish wire edge.

Thomas Stevenson (Paul), a flower with large, black blotches edged with primrose ; the upper petals are primrose, blotched with black and pencilled with crimson.

T. F. Stewart (M'Lachlan) has deep-blue blotches, with primrose edgings ; the upper petals are white, with a blue band and sulphur edging.

W. B. Child (Sydenham), a purple-blotched flower, with yellow margin, the upper petals being purple.

William M'Kenzie (Dobbie), a sulphur-yellow coloured flower, having large, dark-violet blotches ; the upper petals are sulphur-blotched and pencilled with violet and rose.

W. H. Watson (Kay), a flower with large, circular blotches, margined with straw colour ; top petals straw-coloured and violet.

W. P. Harvey (Dobbie) has dark violet blotches of fine

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circular form, edged with creamy white and violet ;
the upper petals are purple violet and white.

Wilfred Stalon (Lister) has plum-coloured blotches, margined with chrome-yellow and shaded with light rose ; the top petals are chrome-yellow, edged and shaded with violet.

SHOW OR OLD ENGLISH PANSIES

The selection given below includes thirty-six named varieties representative of the different classes and sections :—

Dark Selfs

Alex. Black.
Allan Stewart.
J. T. Howard.
Leslie Melville.
Wm. Fulton.
W. M'Queen.

Yellow Grounds

Busby Beauty.
Claud Hamilton.
Dr. J. K. Campbell.
James Craik.
James Harvey.
Morning Star.

Primrose Selfs

Allan Primrose.
Annie D. Lister.
Gladys Murray.
John Kidd.
Jane Stirling.
Lizzie Paul.

White Selfs

Busby White.
Jane Grant.
Jeannie Carswell.
Mrs. W. Peacock.
Mrs. C. Kay.
Mrs. John Neil.

Yellow Selfs

Busby Yellow.
Charles Fraser.
James Bell.
John Henderson.
Katie.
Mrs. John Hunter.

White Grounds

Helen Smellie.
Miss Silver.
Mrs. Cuthbertson.
Mrs. A. Ollar.
Mrs. A. Ireland.
Mrs. M. Stewart.

Like the old Florist's Tulip, the Stage Carnation and Auricula, and the Florist's Pink, the Show Pansy is only now grown by a few enthusiasts.

CHAPTER VIII

THE HARDIEST VIOLAS

*" Daughter of Spring's pure virgin light,
That bringest unto me
More joys than Autumn's splendours bright
Of grove and sky and sea."*

IN the summer of 1907 the present writer arranged to carry out an experiment, to extend over three years, for the purpose of discovering those varieties of *Violas* which were most perennial in their character. It is well known that a great number of the most beautiful exhibition varieties will not survive over a single winter if left standing in the open. These varieties are often purchased because they look so effective when staged on an exhibition table; but disappointment very often follows, unless they get into skilled hands and are carefully propagated by cuttings each season. It cannot be gainsaid that varieties which possess the character of growing into clumps and surviving through several winters in the open border are most advantageous for many purposes. The trial, therefore, was undertaken with the object of discovering which varieties would behave in this way. The situation selected was in an open field

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of strong loam overlying clay situated in the county of Essex. The ground was dug deeply and manured at the end of the summer of 1907, and the plants were planted in the month of October.

Varieties with White Flowers.—The following well-known *white* flowered varieties were planted: Bethea, Countess of Hopetoun, Christiana, Duchess of York, Marchioness, Pencaitland, Purity, Snowflake, White Empress, Redbraes White, Virgin White, Alexandra, Mrs. H. Pearce, White Beauty, Mrs. A. D. Parker, Seagull, E. C. Barlow, Peace.

In the summer of 1908 all the plants were living, and a Committee of Inspection then considered the following the most effective *rayless* varieties: Snowflake, Purity, Marchioness, Mrs. A. D. Parker, and Countess of Hopetoun; the best *rayed* varieties being Alexandra and Duchess of York. Pencaitland, a rayed variety with heavy yellow shading on the under petal, was extra good, and so was Peace, which at times had a flush of pale lavender on the upper petals.

Creamy White.—The following were planted: Cream King, Devonshire Cream, Iliffe, and Sylvia. The best were Sylvia and Cream King.

Primrose.—The following varieties are placed in their order of merit: Primrose Dame, Sulphurea, Ardwell Gem, Maggie Clunas, and Daisy Grieve.

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Yellow.—The following eleven varieties were planted Kingcup, A. J. Rowberry, Bullion, Klondyke, Royal Sovereign, Canary, Grievii, Redbraes Yellow, Walter Welsh, Mrs. E. A. Cade, Wm. Lockwood.

The best rayless varieties were : Redbraes Yellow, Royal Sovereign, and Kingcup ; the best rayed being Walter Welsh and Bullion, also Grievii, which was very dwarf and pretty.

Lavender Shades.—Six varieties were planted, and the order of merit was as follows : Kitty Bell, Florizel, Belfast Gem, Lady Marjorie, Miss Harding, Ariel.

Light-Blue Shades.—Seven varieties were planted, and they succeeded in the following order : Maggie Mott, Blue Duchess, Mauve Queen, Favourite, Ithuriel, Bridal Morn, Lilacina.

Dark-Blue Shades.—The following were planted : Ophelia, Chas. Jordan, Mrs. C. Turner, Admiral of the Blues, Royal Scot, True Blue, Archd. Grant, Councillor Waters, Jubilee, Blue Rock, Lady Warwick.

The best were adjudged to be Councillor Waters, Jubilee, Archd. Grant, True Blue, Royal Scot, Admiral of the Blues, and Ophelia.

Unclassed and Fancy Varieties.—The following were planted : Glencoe, Countess of Kintore, Dr. Macfarlane, Blue Cloud, White Duchess, Ada Anderson, Lady Grant, Mrs. Chichester, Mrs. J. H. Rowland, Wm.

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Neil, Iris, Crimson Bedder. Those selected for special notice were : Glencoe, bright bronze ; Dr. Macfarlane, purple and lavender ; Blue Cloud, white with deep-blue edging ; Ada Anderson, white with rosy edging ; Mrs. Chichester, white with violet edging ; Wm. Neil, rose colour, of very dwarf habit ; and Crimson Bedder, a fine crimson purple variety. The foregoing, as already stated, is the substance of a report made in the summer of 1908.

At the end of the flowering season of 1908 the old growths were cut away and the beds were top-dressed with a little old manure. After passing through the winter of 1908-9, the following varieties were found to show up best in the summer of 1909 :—

White.—Snowflake, a beautiful, pure white, rayless flower of excellent substance, and a strong grower.

Seagull, a charming, rayless flower of fine form, the plant being compact and rather dwarf.

Peace, similar in form and habit to Seagull, but shows a lavender shading in continued damp weather ; rayless.

Sylvia (Dr. Stuart's), a fine rayless, creamy-white variety.

White Empress, a large-flowered, rather tall-growing, cream-coloured variety ; rayless.

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Pencaitland, white, with yellow blotch and rays,
dwarf in habit, and very effective as a bedder.

Yellow.—**Kingcup**, a clear yellow, rayless flower of
rather tall growth.

Royal Sovereign, dwarfer than Kingcup, golden
yellow ; rayless.

Redbraes Yellow, a splendid variety of medium
habit ; rayless.

Mrs. E. A. Cade, a fine flower medium in shade
and habit ; rayless.

Bullion, very bright and dwarf, early in bloom-
ing ; rayed.

Walter Welsh, a tall, deep-coloured rayed variety ;
excellent for a back row in a bed of *Violas*.

Primrose.—**Primrose Dame**, a clear primrose colour,
rather tall, rayless, a most effective variety.

Sulphurea, dwarf in habit, very free in flowering ;
the large flowers are slightly rayed.

Light Blue and Lavender.—**Blue Duchess**, a distinct
variety of a pale-blue shade, rayed like Duchess
of Fife, from which variety it is a sport.

Kitty Bell, lavender, hardy and free ; rayless.

Florizel, similar in colour to Kitty Bell ; rayless.

Wm. Neil, rosy lavender.

Dark Blue.—**Blue Rock**, a most effective variety, and
extremely hardy.

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Royal Scot, similar, in a mass, to **Blue Rock**, but not such a fine flower.

Archibald Grant, deepest violet, a strong grower, rather late in blooming.

Edina, deep purple violet, with blotch, really a bedding Pansy.

Crimson Purple.—**Jubilee** proved to be the hardiest of the crimson-purple varieties; it is medium in height, and most floriferous.

In the autumn of 1909 the surviving plants were treated again as they were in 1908. In the spring of 1910 the following varieties, after having stood undisturbed for three winters in the same place, give promise of excellent results in the summer of 1910 :—

White.—**Seagull**, **Peace**, **White Beauty**, **Pencaitland**, **Christiana**.

Cream.—**Sylvia**.

Primrose.—**Sulphurea**.

Yellows.—**Grievii**, **Redbraes Yellow**, **Klondyke**, **Mrs. E. A. Cade**.

Light Blue.—**Blue Duchess**, **Lilacina** (bedding Pansy).

Dark Blue.—**Royal Scot**, **Archd. Grant**, **Edina**, **Blue Rock**, **Jubilee**.

Unclassed and Fancy.—**Wm. Neil**, **Blue Cloud**.

Some varieties appear in this last list which appear only in the first list. This is explained through their being less

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effective during the first two years, but have now proved to be more perennial than some of the others which were more effective in 1908 and 1909. It is well known that seedlings are much hardier and more perennial in their character than most of the named varieties. This is so not only with Pansies and Violas but with all florists' flowers. The difficulty is to secure in any fair proportion of the seedlings the same high quality possessed by the parents.

CHAPTER IX

FIFTY VARIETIES OF VIOLAS

"He saw her charming, but he saw not half
The charms her downcast modesty conceal'd."

THE fifty *Violas* enumerated below are large-flowered and mostly long-stemmed varieties suitable for exhibition ; also for growing to obtain good flowers for cutting for other purposes :—

- A. S. Frater*, a large, cream-white flower, rayless, with a distinct margin of rich mauve.
- *Agnes Kay*, white centre, almost rayless, edged with heliotrope.
- *Archd. Grant*, rich, indigo-blue flowers on fine, long foot-stalks.
- Belfast Gem*, smoky heliotrope on cream ground ; rayed.
- Betha*, large, pure-white rayed flower.
- Blanche*, large, creamy-white flower ; rayless.
- Bronze Kintore*, a dark-bronze coloured flower.
- Cheshire Cream*, pure cream self ; almost rayless.
- Cream King*, rayless, cream-coloured flower.
- Daisy Grieve*, pale yellow, petals crimped at the edge.

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Dr. M'Farlane, upper petals mauve, under petals very dark, with a white eye.

**Duke of Argyle*, glossy-purple, striped with rose.

Ethel M'Culloch, lower petals, very dark—almost black ; top petals, bright, azure-blue.

**Geo. C. Murray*, smooth black bottom and side petals ; top petals light, sky-blue.

**General Baden-Powell*, large, orange-coloured, rayless self.

**Glencoe*, lower petals rich mahogany, deepening towards the centre ; upper petals copper colour.

Hector M'Donald, pure white centre, with fine rays, edged with a broad margin of bluish purple.

Helen Paul, a rayless yellow flower of immense size.

**Helen Smellie*, pure white centre without rays, distinctly and evenly edged blue.

**Hugh Reid*, rosy purple, a shade lighter on the top petals.

Jenny M'Gregor, violet, shaded with mauve ; a new colour.

Jennie Houston, maroon shading to grey.

Jessie Baker, rayless, creamy-white, bordered with plum purple.

**Kate Cochrane*, lower petals crimson purple, with a trace of lavender ; upper petals pale lavender.

Katie Cuthbertson, white, slightly flushed with clear pink, centre of flower gradually deepening to rich pinkish purple.

PLATE VI
FOUR SHADES OF BLUE VIOLAS

Maggie Mott.

Archd. Grant.

Admiral of the Blues.

Jenny M'Gregor.

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- *Kate Houston*, white ground, heavily belted with rosy mauve.
- *Lady Knox*, large primrose self ; rayless.
- *Lawmuir*, rich crimson streaked with magenta.
- *Lizzie Storer*, glossy black under petals, each tipped with lavender ; upper petals clear lavender.
Lollie Roberts, white, rayless centre, beautifully bordered with purple-lilac.
- *Louie Granger*, rose-coloured self.
- *Mad. A. Gray*, large white ; rayless.
- *Madge Craig*, lower petals deep rose, a little darker in centre ; upper petals lavender flushed with rose.
Maggie Mott, soft mauve.
- *Mary Burnie*, creamy-white or primrose, edged with dark heliotrope ; rayless.
Matthew Alexander, rosy ground striped with purple.
- *Mrs. Chichester*, white ground, flaked and edged with purple.
- *Mrs. C. M'Phail*, heliotrope deepening to pale purple.
- *Mrs. H. Pearce*, large, pure-white, rayless self.
Mrs. J. H. Rowland, distinct shade of rose colour.
Nancy Marsh, deep violet, tipped with bluish mauve ; upper petals mauve.
Neidpath Castle, under petals milky white ; top petals lavender.
- *Nellie Chapman*, white, edged and shaded with blue.

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Nellie Vine, large beautiful primrose self.

Nora Marrows, upper petals blush pink ; lower petals yellow ; slightly rayed.

**Rose Noble*, rich orange-yellow ; rayless.

Snowflake, a perfectly pure-white, rayless flower.

**Viola Stirling*, creamy-white, edged with heliotrope.

**W. P. A. Smyth*, cream ground clouded and edged with heliotrope, very large.

Wm. Lockwood, a large, rayless, yellow self.

* An asterisk is placed at twenty-four distinct varieties, which would form a good beginning for any grower, and a fine basis for a larger collection.

CHAPTER X

THE SWEET VIOLET

(BY THE EDITOR)

“Violets dim
But sweeter than the lids of Juno's eyes
Or Cytherea's breath!”

NOTWITHSTANDING the attractions of other sections of Violas, they are surpassed by the matchless perfume of the Sweet Violet. Some of the flowers are single, others double, whilst they exhibit shades in blue, purple, and mauve, in addition to certain varieties which are pure-white. These Violets are all varieties of *Viola odorata*, a species indigenous to many parts of Europe, including Britain. Just as the Pansy (*Viola tricolor*) is the first flower a child usually desires to cultivate, so Violets are amongst the first wild flowers children learn to gather from the roadside. They are not the less sought after because their habit is so humble that the fragrant blossoms are frequently hidden by the ranker vegetation around them.

“It takes us so much trouble to discover,
Stands first with most and ever with a lover.”

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In their natural habitats in Britain, Violets bloom from about March to May, but it is possible to extend the season a little at both ends by cultivating them in various aspects out-of-doors. It is not, however, for this reason alone that Violets are cultivated in gardens, but also because cultivated flowers are superior in size to those gathered from the hedgerow or sparse plantation, whilst the varieties in themselves are of better quality than the wild type. A more artificial form of cultivation is practised in order to obtain the flowers in winter and spring. This forcing is usually carried out in frames, and, in districts free from the prejudicial atmospheric conditions of large towns, it is done with comparative ease and gratifying success, provided the few rules of procedure are thoroughly understood and rigidly observed. On the contrary, if the cultivation is careless or haphazard, failure is more certain to follow in Violet culture in frames than in many other departments of gardening.

The great bulk of the flowers on sale in the markets during winter are imported from Italy and France, but after Christmas the supplies are augmented by home-grown blooms from outdoor plants in the warmer counties, but only a very few frame-forced Violets ever appear in the markets. Every one is familiar with the general manner in which the flowers are bunched for the market, but the bunches vary in the different markets. What is termed

a "Market" bunch is the bunch as sent to the market by the growers. These are frequently loosened and the same quantity of flowers divided into two or more bunches for the retail trade. It is one of the floral wonders in London that Violets can be sold so cheaply by the numerous flower-girls, whose cry of "Penny a bunch, sir," is familiar to every one. Whilst Violets are purchasable at every street corner, they are none the less popular in the high-class florist shops in Regent Street and the Central Avenue in Covent Garden Market. They are used extensively for all kinds of decoration, at funerals no less than at weddings; occasionally crosses, anchors, and other devices are formed almost entirely with Violets.

On the Continent, Sweet Violets occupy similar positions to that given them in Britain, and in America and Canada they are not less appreciated. An American writer has stated that in that country the Violet ranks third in commercial importance amongst florists' flowers, and its season extends for about seven months. Until a few years ago the cultivation in America was not of the best, although so general, but latterly much greater care has been taken to produce flowers of the highest quality, and the trained horticulturists at the experiment stations have devoted themselves to studying the several fungus diseases that attack the plants.

VIOLET CULTURE OUT-OF-DOORS

The first things to consider are aspect and soil. In most localities in Britain, but not all, the plants succeed best in a north or north-west position—at any rate during the summer months, because they do not like exposure to much sunshine. These aspects are not conducive to early flowering, but this can be got over by transplanting some of the plants in September to a more sunny position—even a border under a south wall. The soil should be of a fairly retentive character, for Violets require moist, cool conditions ; and it should be fairly well enriched with thoroughly decayed manure. If the manuring is excessive or the manure too fresh and strong, its effect will be to produce extra vigorous foliage, which is not desirable. The soil should be tilled deeply, whatever system of manuring is adopted.

Propagation is effected by offsets (or runners), cuttings, or by division of the crowns ; division being more generally practised. This is done directly after the plants have flowered, by taking them up and sorting out the young but well-rooted crowns, rejecting the old, woody stems which are unfit for planting. The younger crowns are planted at distances of about 12 inches apart each way. If the soil has been treated as described above, a

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little leaf-mould or similar light material may be mixed with the surface soil before planting the Violets. When the plants have become well established and are capable of being lifted with a good ball of soil attached to the roots, they can be transplanted into any position where they are to flower, or, if desirable, left to bloom where they are. The summer cultivation consists in pinching out all runners, stirring the surface soil repeatedly with the Dutch hoe, and affording water during dry weather, the object being to encourage the development of strong, perfectly matured crowns by autumn. Spraying with clear water late in the afternoon of fine days is beneficial. Some growers prefer to set their plants rather wider apart than the distance already stated, and peg down three runners around each plant. Excellent results are obtained from either system, and as regards the latter method, it may be applied to Strawberries with equally good results. A word of caution is here necessary. Although the three runners may be permitted, this should be the maximum number, for it is just as impossible to get the best results from Violets as from Strawberries if the runners are allowed to grow as they please.

CULTIVATION IN FRAMES

Assuming this method of cultivation is adopted for the purpose of supplying blooms in winter, the transplanta-

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tion to the frames should be carried out in September. Plants cultivated as already described are suitable at that time for putting into the frames, being good big specimens 8 or 10 inches across. Before planting can be done, however, the frames must be prepared; therefore let us turn our attention to these. The character of the frames will depend upon the resources of the garden, but in any case they should have a south aspect. The amateur will often have to prepare an improvised or temporary frame with sunken boards and lights placed over them, whilst in many other cases proper brick frames will be available. In either case it is best not to use fire heat, for of all plants none is more sensitive to its ill effects than the Sweet Violet. What little heat is employed must be got from fermenting materials. First, then, there must be placed in the frame a bed of stable litter and leaves; this must be at least one foot deep, and more if it is possible. The materials should be prepared for this purpose some time previously by turning them every alternate day, and allowing the volatile gases to escape from the litter. Having formed the bed, and made it firm by treading, a layer of soil about 6 inches deep must be placed over it. The soil may consist of pasture turf of a rich loamy nature, rather than sandy, and it should have been in stack for 12 months. Some thoroughly decayed and

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dried cow-manure should be mixed with it, or failing this some decomposed manure from a spent hotbed; but fresh horse-manure should not be employed. Some good leaf-mould from decayed oak leaves will have an excellent effect, if the soil is inclined to be of a heavy nature. Where good loam cannot be got the amateur must make up his compost of old potting soil, decayed vegetable refuse, and such materials. The lighter the compost, the more necessary it is to add cow-manure. The frame and its contents should be so arranged that when all is completed, and the Violets are planted in the bed, the leaves of the plants will be 2, or at most 3 inches from the glass, thus getting full exposure to the light.

When all is ready the cultivator will proceed to the out-of-door plantation and lift the best of his plants for putting into the frame. He must do this work very carefully, in order to avoid giving the plants a greater check than is necessary. They must be lifted with big balls of roots and soil and conveyed, without much shaking, to the frame. In this they should be planted at such distances that they will not quite touch each other, but at the same time nicely furnish the frame. When all have been planted, afford them a thorough watering to settle the roots, and afterwards keep the frame closed for a few days until the plants begin to

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make roots, but no longer. This little proviso is insisted upon, for Violets must have fresh air or perish. Therefore, so soon as they have become re-established, admit air to the frame whenever the state of the weather will permit of this being done, and continue this practice all through the winter, removing the sash lights altogether during fine, warm days. Keep the glass as clean as possible, for dirty glass is an obstruction to light. During exceptional frost a few garden mats may be thrown over the frames early in the afternoon, removing them again the next morning. Fog is the greatest deterrent to Violet culture in frames. It causes the leaves to damp off, and in severe cases suffices to kill the plants outright. This is one reason why Violets cannot be forced successfully in the neighbourhood of large towns, the other reason being that the amount of light is insufficient to meet the requirements of the plants. In crowded manufacturing districts it is not worth the effort to attempt their cultivation. There are plenty of places, however, where they will succeed well ; but although it is not desired to discourage the beginner, it has to be pointed out that careful attention to details is necessary to preserve the plants from Red Spider and the various fungus diseases to which they are subject. These pests will be referred to presently ; for the moment the cultivator should further note that the chief requirements

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during winter and spring, beyond the operations of watering and ventilating, will consist in stirring the surface soil frequently, and observing the most scrupulous cleanliness in removing any decayed foliage from the Violets. Such is the management of the plants whilst in the frame. If these details are faithfully carried out the result will be plenty of large, sweetly perfumed flowers, borne on long, stiff stems, equal to the best Violets obtainable. In April, or at the latest in May, the work of propagating will commence afresh, and it should be carried out in the manner described already. The youngest and best of the crowns should be planted on a north or north-west border, and be kept free from runners until the following September, by which time another batch of excellent plants will be ready for the freshly-prepared frames.

VIOLET CULTURE AT WINDSOR

In the Royal Gardens at Windsor, as many as 3000 Violet plants are cultivated in frames with exceptional success. The method of propagation practised there is by cuttings taken in September. The following details of cultivation have been furnished by Mr. John Dunn, under whose care the Windsor plants are grown :—

“The plants are propagated early in September by

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cuttings. These are inserted 4 inches apart, either in a cold frame, or on a south border where protection can be given them in rough, winter weather. The cuttings chosen are those possessing a crown bud, for these are usually plentiful at the time the runners are being removed from the plants grown for winter flowering. By this method strong young plants are ready for planting out by the first week in April; they have a great advantage over plants propagated by division in May, as practised by some growers. In April the young plants are planted in a border. Before planting, a liberal supply of decayed leaves is dug in, in preference to any kind of farm-yard manure. During summer the plants should be syringed every afternoon or evening to encourage clean, healthy growth. Red Spider is the result of poverty caused by want of moisture. Slight dustings of soot should also be given during damp weather. The runners must be removed from plants intended for winter flowering in frames, so that good, plump crowns may be ready for planting in pits by the first week in September. The hotbed is composed of leaves, saved for the purpose, and trodden lightly together to the depth of 3 feet or more. Over this bed we place the compost 9 inches deep, consisting of loam and leaf-mould in equal parts. The leaf-mould is collected from plantations where the leaves have lain without fermenting, and thus they have not become sour.

“The plants are carefully lifted for planting in the pits,

PLATE VII
SWEET VIOLETS

Marie Louise.

Princess of Wales.

Mrs. J. J. Astor.

Marie Louise.

Comte de Brazza.



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and, when planting has been done, a liberal watering is given to settle the soil about the roots. The gentle heat created by the bed of leaves soon promotes root growth. The lights are left off until the approach of frost, and although the bed is well filled with young, healthy roots, the plants have so far made very little top-growth. Violets treated in this way provide flowers all through the winter. Ventilation is given freely, and watering is done thoroughly when this is necessary, which is not more than three or four times during the winter months.

"At Windsor, 3000 Violet plants are cultivated in pits, and the success achieved is largely due to the liberal use of leaf-mould, and the system of propagating the plants in September.

"Only three varieties are grown ; these are Princess of Wales, Lady Hume Campbell, and Marie Louise."

CULTURE OF VIOLETS IN POTS

Having said so much about the cultivation of Violets in the open ground and in frames, brief reference may be made to yet a third method by which plants are cultivated for supplying blooms in winter. Although the public is not accustomed to see Violets growing in pots, the plants nevertheless succeed as well as other kinds when grown in these convenient receptacles ; and there are few

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more agreeable vase plants than a Violet bearing numerous expanded blossoms. If used for this purpose in a dwelling room, however, they do not remain decorative for long, and they seldom continue blooming well after they are returned to the growing house or frame.

We will suppose that division of the crowns takes place in May; the younger crowns may be put singly into pots straight away, or be planted in the shady border for the summer and potted up early in September. The plants can be kept in 6 or 7 inch pots, if they are permanently cultivated in these receptacles; but on the contrary, if they are potted up from the border at the end of the summer, it will be found that 6-inch pots are too small; probably 8-inch pots will be more convenient—for the roots must not be sacrificed. So much has been said in regard to maintaining proper conditions in the frame, it is unnecessary to repeat it, for the reader will know that the nearer he can grow his pot plants to those conditions, the more likely he is to succeed in their culture. The pot plants need light and fresh air just as the others do, and the attention to watering must be much more frequent; when the flowers are being produced, some diluted, non-smelling, manurial stimulant may be given in the water. Nothing has been said about the potting compost. If the cultivator can choose his materials, then he had better select good turfy loam, which has been stacked for at least twelve

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months, and mix with this some well-rotted leaf-mould, a little rough silver sand, and some dry cow-manure, first rubbing the manure through a half-inch meshed sieve.

Amateurs in country districts are recommended to try a few Violets by this system of culture, and those who succeed in getting strong, floriferous plants in winter and early spring will be very likely to regard it as one of the most pleasant incidents in their horticultural experience. We will now consider a few of the varieties.

VARIETY IN SWEET VIOLETS

In common with most garden plants, the Sweet Violet has responded very liberally to man's desire for variety. Under cultivation the modest little flower has given forth variation after variation, and cultivators appear to have selected their sorts for two qualities, colour and size. The number of shades has been materially increased, for whilst some varieties are of the deepest purple conceivable, others are quite of a Violet tint, some are blue and others white, and one or two approach to a shade of pink. In size, the development has been so considerable that there is now what is termed the "Pansy" strain, embracing such varieties as California, Princess Beatrice, and Princess of Wales. The flowers of the two latter varieties, more especially, are like small flowered Pansies, and their attrac-

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tiveness suffers somewhat in the fact that the characteristic and pleasing form of the wild Violet has become modified in these large blooms. Nevertheless, they are first in the public estimation, and their market value is unquestioned; many of the new sorts have been introduced from the Continent, and others from America, whilst few have originated in our own country.

DOUBLE FLOWERS

De Parme.—This is of pale lavender-purple, and specially suited for frame culture. It flowers earlier than Neapolitan.

King of Violets.—This flower lacks refinement, and should only be cultivated out-of-doors. The colour is deep indigo-blue.

Lady Hume Campbell.—One of the very best late-flowering kinds.

Marie Louise.—One of the most popular of all double Violets. The colour is mauve-blue with a white eye. Two blooms are illustrated in the plate, one lighter and the other richer coloured, owing to details in the cultivation.

Mdlle. Bertha Barron.—This variety is also known as Victoria. The plants are vigorous but of compact growth. The colour is rich blue.

Mrs. J. J. Astor.—In this flower may be seen an

approach to a double, pink-coloured Violet. A flower is shown in the plate between two blooms of Marie Louise.

Mrs. Arthur.—A new variety at present considered better than Marie Louise, which it much resembles. A few plants should be given a trial.

Mrs. D'Arcy.—Another new sort with flowers of a distinct shade of mauve.

Neapolitan.—A lavender-coloured flower with white eye. One of the very best for forcing.

New York.—A variety much like Marie Louise, except that the flowers are a shade of mauve.

BEST DOUBLE WHITE VIOLET

The best double white Violet is Comte de Brazza, also known as Swanley White. The flowers are very fine, but in some districts the plants show a weakness in constitution. This variety is illustrated in the plate.

SINGLE FLOWERS

Amiral Avellan.—A very old variety, but still grown for its very sweetly scented reddish-coloured flowers.

Argentiflora.—This flower is white, tinged with pink, of small size, but possessing strong stems.

Baronne A. de Rothschild.—A fine new variety with large, purple flowers.

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Cyclops.—The peculiarity of this variety is that the blue flowers have a rosette of white petals in the centre.

La France.—This is one of the newer type, having large roundish flowers of a violet-blue shade.

Princess of Wales.—The purple flowers of this variety are as large as many *Violas*. It was first exhibited from Windsor, but was probably introduced there from the Continent. A fine bloom is illustrated in the plate.

Rose Perle.—One of the most distinct of *Violets*, being of a rose colour with white centre. The blooms are of medium size.

St. Helena.—This variety is said to have been introduced from St. Helena. The flowers are bluish mauve, and are most freely produced.

Victoria Regina.—This variety belongs to the low-habited section, having small foliage but producing a great number of runners, which flower abundantly.

White Czar.—The White Czar is not always constant, owing to some of the flowers coming blue.

Sulphurca.—The newest approach to a single yellow Sweet Violet.

PESTS

To mention pests, undoubtedly one of the worst is Red Spider. Out-of-doors, it is most prevalent when the plants are cultivated in hungry, dry soils exposed to sun-

shine, or so placed that the plants fail to get sufficient moisture. In frames the same pest abounds if much fire heat is used or the matter of ventilation is treated with carelessness. It will soon spread if drought is present. A little sulphur applied as a powder, or mixed with water and syringed on the plants, will usually check the pest, provided the general conditions are what they ought to be. If aphides or green-fly appears in frames they should be treated with occasional vapourings with one of the nicotine compounds. Wire-worms are very destructive if these are present in the loam. In addition to these pests there is the slug, which feeds most voraciously upon the tender young leaves if allowed to have its own way; therefore traps must be set, and in addition this pest must be hunted for at night with a good lamp.

FUNGUS DISEASES

As a general rule it is the frame-grown plants that suffer most from fungus diseases, but those growing out-of-doors are not immune from attacks. An instance has just come to the writer's notice of two collections suffering from attacks of *Urocystis violæ*. This disease causes the leaves and leaf petioles to become swollen and eventually burst. At first sight the condition looks as if it were the result of a gall-forming insect, but when the rupture takes place the

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black spores can be seen easily, and the character of the malady is thereupon disclosed. This is such a deep-seated disease that spraying is of little use. The only thing to be done is to pick off and burn any diseased foliage before the spores are distributed ; or in very bad attacks, to burn all the plants and get a fresh stock.

Violet Rust (*Puccinia violæ*).—This disease is due to another parasitic fungus that grows in the tissues of the plant. Its presence is denoted by pustules of powdery uredospores which appear on the leaves. The disease is somewhat like, but not identical with, that which attacks the Hollyhock. On its first appearance all affected leaves should be removed from the plants and burnt.

Violet Black Mould (*Cercospora violæ*).—The presence of this disease may be detected by pale spots appearing on the leaves. These spots eventually develop tufts of short, erect threads. It is not so serious as the diseases already mentioned ; nevertheless the plants should be sprayed with the Bordeaux mixture directly the disease is detected. This preparation can be purchased from horticultural sundries-men.

Violet Mildew (*Peronospora violæ*).—This fungus is like that which attacks the potato haulm and tubers. It attacks Pansies as well as Sweet Violets, and causes a whitish, felt-like covering on the under surface of the leaves. Like all mildews, this disease spreads quickest in damp

weather or in a stagnant atmosphere ; it will be less likely to attack Violets in frames if careful attention is given to ventilating the frames ; in severe cases the plants may be syringed with potassium sulphide, at the rate of 1 oz. of potassium sulphide (or liver of sulphur) to $2\frac{1}{2}$ gallons of water. Dissolve the potassium sulphide in a quart of hot water ; then make it up to $2\frac{1}{2}$ gallons with cold water.

Ascochyta violæ.—This is another disease that Violets have exhibited in this country when cultivated in frames. An attack may be identified by the presence of scorched-like patches on the leaves. From these patches numerous minute spores are produced, and these, falling from the leaves to the ground, are liable to perpetuate the disease. Where a bad attack is experienced, the most satisfactory plan is to burn the plants, sterilise the soil or remove it to an out-of-the-way part of the garden, and thoroughly disinfect the frame before planting fresh stock. When the plants are well established, the plant and soil may be sprayed at intervals of a fortnight with potassium sulphide, at the strength of 1 oz. to 3 gallons of water.

CHAPTER XI

THE GENUS VIOLA

SOME OF THE PRINCIPAL SPECIES

THE *Viola* family is a large one, consisting of about 200 species, the greater number being spread over the northern temperate regions, while thirty are found in South America, two in South Africa, and eight in Australia and New Zealand. They are beautiful, woodland plants, and they also inhabit hedge banks, open pastures, and cultivated fields. Most of the species are perennial, and the plants are of dwarf habit. In this country they are nearly all easy to grow in light, rich soil, preferably in half-shady situations, although many of them flourish in the open border. In many of the species the flowers are cleistogamous, the larger petalled flowers appearing first, but producing little or no seed, while later, small petalled fertile flowers are produced which furnish seed. The section to which the Pansy (*V. tricolor*) belongs is an exception, for in this case all the flowers are fertile. *Violas* can be propagated by division of the roots, by seeds, runners, or cuttings. About fifty species are in cultivation,

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the greater number of which are only found in Botanic Gardens.

V. alpina.—This grows at high elevations on the Eastern Alps. It has small, oval-shaped leaves borne on long stalks. The flowers are purple and have a short spur.

V. altaica.—This species is supposed to be one of the parents of the cultivated Pansy ; all those with pale-yellow petals with an undulated margin being derived from this plant. It is a native of the Altai Mountains, and has large pale-yellow flowers, with a few dark-purple lines near the base of the petals. It was introduced into cultivation in 1805, and the plants are easily propagated by seeds or cuttings.

V. arenaria.—This is a rare native plant found in Teesdale. It has small leaves and pale-blue flowers. Its native habitat extends into various parts of Europe.

V. biflora.—The twin-flowered Violet is a dainty little plant found on the Alps of Europe, and also in Siberia. It has small, bright-yellow flowers, and must be given a moist position. It was introduced in 1752.

V. blanda.—An early flowering species from North America, with pubescent leaves, and white, small, faintly-scented flowers ; the lateral petals are veined with lilac.

V. calcarata.—The alpine Pansy is a lovely plant, forming tufts of foliage, and bearing large violet and purple flowers in the typical plant. There are white,

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yellow (var. *Zoysii*), and pale lilac forms in cultivation, it being a most variable plant. It was introduced from the European Alps in 1752.

V. canadensis.—This is a handsome plant, growing nearly one foot high, with white sweetly-scented flowers tinged with violet. It is a native of Canada, and was introduced in 1783. *V. Rydbergii* is the Colorado form of this species. Both plants require a shady situation.

V. canina (Dog Violet).—This well-known species is a native of Britain and other countries. The flowers are blue, and they have a yellow spur. The species is very variable, one variety having pure white flowers.

V. cenisia.—A lime-loving species from the Alps, with violet flowers and a slender, arching spur. It grows about 6 inches high, and has slightly hairy leaves. 1759.

V. cornuta (Horned Viola).—A free-growing species forming dense carpets of foliage, and large, light-purple flowers. It is a valuable spring and summer flowering plant. There is also a pure white-flowered form, as well as other colour varieties, some of which are shown on the coloured plate. It was introduced from the Pyrenees in 1776, and is supposed to be one of the parents of the bedding Violas.

V. cucullata.—This Violet has the margins of the leaves turned up so as to resemble a kind of cup. It is a common North American Violet, and will grow almost anywhere.

PLATE VIII

THREE VARIETIES OF *VIOLA CORNUTA*



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The flowers of the type are purple and of good size. There is also a pure white variety. *V. septentrionale*, with striped, white flowers, is also a form of this species, which has been in cultivation since 1795.

V. elatior.—This is a very distinct species growing over one foot high, having a bush habit and erect stems; the flowers are pale blue. It is a native of Europe.

V. gracilis.—A beautiful, dwarf, free-flowering kind from Greece, with large, deep-purple flowers that appear in spring and summer. It is a valuable plant for the rock garden or border. Although introduced in 1817, it has only recently become plentiful in gardens. The variety *Valderia (heterophylla)* is a charming variety from the Tyrol, and with smaller violet-blue flowers spotted with darker violet and white.

V. hastata is a North American species with hastate leaves and pale, violet-coloured flowers.

V. hederacea.—A charming species of creeping habit, only 2 inches high, with lovely, lilac-blue and white flowers. These are produced freely in summer, and are very attractive. The plant likes a moist position. It is also known as *Erpetion reniforme*, and is a native of Australia, and is only hardy in very sheltered situations.

V. hirta.—A native and European plant closely allied to *V. odorata*, but very faintly scented, and with paler flowers.

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V. Jool.—A compact-growing European species with fragrant flowers.

V. lutea.—This is considered to be a form of *V. tricolor*, and has large, yellow flowers with purple blotches. It is very free in flowering, and has a spreading habit. This species has been used for crossing with the Show Pansy to produce the modern *Violas*.

V. mirabilis.—This species bears sweetly-scented, pale violet-coloured flowers in April and May.

V. Munbyana.—This plant produces a profusion of large, rich-violet flowers through spring and summer. It is a free-growing plant, soon forming a broad carpet of creeping stems. Closely allied to *V. lutea*. Native of Spain and other places.

V. Nuttallii.—This species grows on the sandy plains of the Missouri in North America ; it has pale-yellow flowers.

V. odorata (Sweet Violet).—The delightful fragrance of this species makes it a favourite in every garden. It is a native of this country, and is found over the whole of Europe, extending even into Asia. There are numerous varieties, which have been greatly improved for garden purposes. The flowers range in colour from blue to red, purple, and white. *V. odorata pallida-plena*, the Neapolitan Violet, has sweet-scented, double flowers of a pale-lavender shade.

V. palmata.—A North American species, closely allied to *V. cucullata*, but its mature leaves are palmately-lobed.

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Its native habitat is in low grounds and woods, and it bears bright blue, rarely white, flowers.

V. palustris.—This is a marsh-loving species, with reniform leaves and lilac-coloured or white flowers with short spurs. It is widely spread over the northern temperate regions, including Britain.

V. Patrinii.—This species is also widely distributed from Russia to Japan. It is distinct on account of the leaves having winged petioles. The purple flowers are of medium size.

V. pedata.—A beautiful species found growing in dry sandy woods and rocky hills in North America. The leaves are pedately divided into about seven linear divisions, while the large, bright-blue flowers are freely produced. *V. p. var. bicolor* is a handsome kind, with the two upper petals of a deep violet colour. There is also a pure white form. It was introduced in 1759.

V. pedatifida (syn. *V. delphinifolia*).—This species is closely allied to *V. pedata*, but has fewer divisions of the leaves, and smaller, brilliant-blue flowers. It grows on the prairies of Missouri in North America.

V. persicifolia (syn. *V. stagnina*) is a form of *V. canina*, but rather taller in habit, with pale-blue or white flowers. It is usually found in boggy ground, and is a native of this country and other parts of Europe. The leaves are rather long and narrow.

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V. pinnata (syn. *V. dissecta*).—This species grows about 6 inches high, and has palmati-partite leaves with toothed segments. It is found in mountain pastures on the Alps of Europe, and is somewhat rare. The violet-coloured flowers are produced in June. The species has been in cultivation since 1752. A form of this species, var. *chærophyloides*, with larger and more attractive flowers, is found in Japan.

V. pratensis.—This is similar to *V. persicifolia*, but is usually found in drier meadows and woods.

V. primulæfolia.—A species inhabiting wet meadows in North America. It has sweet-scented white flowers, the lateral petals being bearded.

V. pubescens.—A free-growing, North American plant, 6 inches to 12 inches high, found in dry woods. It is softly pubescent, with large leaves and yellow flowers; the lower petals are veined with purple. The variety *scabriuscula* is a form with decumbent stems, and smaller, somewhat scabrous leaves.

V. rostrata.—This is also a North American species found in moist, rocky situations. The large flowers are pale blue and have a slender spur.

V. rothomagensis.—This belongs to the same type as *V. cornuta*. It has bright-blue flowers, the side petals and lip striped with black. It flowers from April to August, and is a native of France and Belgium.

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V. rotundifolia.—At flowering time the leaves of this North American plant are small, but later they develop to a large size, 4 inches in diameter. It is found in shady rocky situations, and bears good-sized pale-blue flowers.

V. sagittata.—Found on hillsides and fields in North America. It has hastate leaves and bright-blue flowers.

V. Sarmentosa.—A creeping species, with stolons and cordate leaves. The flowers are yellow.

V. striata.—A strong-growing, attractive plant, often 12 inches high. The flowers are cream-coloured, the lower petals being veined with purple. It grows in wet meadows in mountainous districts in North America.

V. suavis.—The Russian Violet is closely allied to our native Sweet Violet, but is distinguished by its pale-green leaves and larger, paler flowers. It was introduced from the Caucasus in 1820.

V. sylvestris (Wood Violet).—A well-known native plant with bluish-purple and lilac-coloured flowers, produced on axillary branches from a radical rosette. It is also known as *V. sylvatica*. There are several forms of this species, such as the varieties *Reichenbackiana* and *Riviniana*.

V. tricolor.—(Heartsease ; Pansy).—A common very variable annual, found in cultivated fields. The flowers vary from small yellow blooms to large tricolored ones, blue,

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purple, and yellow. It is one of the parents of the garden Pansy. The variety *arvensis* has small, yellow flowers.

V. uliginosa.—This European species is similar in habit to the American *V. cucullata*, but the leaves are flat. The blue-purple flowers have no scent.

V. variegata.—A species from Eastern Asia, with variegated leaves and pale violet-coloured flowers. It blooms in May and June.

The above-mentioned species are merely the commonest of those in cultivation.

CHAPTER XII

CALENDAR OF OPERATIONS

JANUARY

IF the beds where the Pansies and Violas are to be planted in spring were not prepared in the autumn, they should be prepared this month. The ground ought to be trenched and enriched with well-decayed cow or horse manure. The bottom spit should be moved to ensure perfect drainage, but it should not be brought to the surface. A small proportion of fresh material should be incorporated with the surface soil. There is nothing better for this than some good, turfy loam which has been carefully picked over to remove any wire-worms. Plants in frames will require to be aired every fine day, and only shut up closely when frost is likely to occur. Violets in frames should be kept scrupulously clean.

FEBRUARY

Plants in frames require the same attention as in January. Stir the surface of the soil between the rows with a very narrow fork or with a pointed stick, removing

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at the same time any decayed foliage. February is a trying month for plants in frames ; the lights should never be shut up quite closely except during frost. It is not likely the plants will require water, but should the surface get very dry a gentle watering should be given in the forenoon of a fine day. This is a good time to sow seed under glass to produce plants to bloom in summer. Violets in frames will now be yielding large quantities of bloom.

MARCH

The frames must now be ventilated more freely, so as to get the plants well hardened by the end of the month. On fine days the sashes can be removed altogether for an hour or two in the middle of the day, and by the end of the month, unless the weather is unusually cold, the sashes may be dispensed with if the plants have been gradually hardened off. This month all plans for planting should be completed, and beds being lightly forked over as recommended in the chapter on culture. It is quite time the ground was prepared for Violets to be removed shortly from the frames.

APRIL

In some districts it is desirable to plant out in March, and in all districts planting should be completed as early as possible in April. This applies to seedlings as well as

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to named varieties. A sharp look-out must be kept for slugs and snails in beds of newly planted Pansies, as one of these creatures will destroy a plant in a night. If green-fly appears, the plants must be syringed as recommended. Early flower-buds should be removed, to allow the plants to gain strength. The Violets in frames should be divided this month and the best crowns planted on an outside border, according to the directions given in the chapter on Violets.

MAY

The surface of the beds should be stirred and kept free of weeds. The growths as they elongate will require attention in the way of pegging and staking if exhibition flowers are required, and surplus growths must be pinched out. By the end of the month some very fine flowers will be obtained. It is usual at the Temple Show in London at the end of this month to see remarkably fine flowers of both Pansies and Violas. This month and next is a good time to sow seeds in frames to get strong plants for September planting.

JUNE

In the southern counties Pansy beds should be mulched with old, sifted manure and well watered in dry weather. Grand flowers should be had all this month, and it should

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be the happiest of all for the Pansy grower. If a few pods of seed are desired, flowers should be left on special plants for this purpose. It is well to bear in mind that blooms should be removed whenever they begin to fade if a long period of bloom is desired. In any case they should be removed on the score of tidiness.

JULY

This is a trying month for Pansies and Violas in the south, and it is often well to remove a large number of the strong growths and to encourage, by attention to watering, &c., the young growths from the centres of the plants to develop. For autumn-planting, cuttings should be inserted this month in a shaded situation, either in a cold frame or in the open. A rather sharp compost of sand, loam, and leaf-mould is a fine medium for rooting. Violas should be sprayed with clear water at the end of the afternoon on hot days.

AUGUST

Pansies and Violas will still be doing well in the north, but by the end of the month propagation should begin in earnest for next year's stock. Flowers are exhibited at the southern shows well up to the middle of July, and in August and September they are always found at north-country shows, being remarkably fine in September at

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exhibitions in Scotland. Frames should be prepared for Sweet Violets.

SEPTEMBER

Cuttings may be put in frames any time during this month, and they will make fine plants for spring-planting. Beds for autumn-planting should be prepared, and the planting begun by the end of the month. Sweet Violets should be lifted from the outside border and planted in frames.

OCTOBER

Autumn-planting ought to be completed during the first eight or ten days of this month. This applies not only to summer-struck cuttings but also to seedlings sown in May or June. Frames filled with newly inserted cuttings must be shaded in bright weather, and gently watered in dry weather. Sweet Violets which were planted in frames last month need all the air possible during October.

NOVEMBER

Plants in frames will require air on bright days. It is a good plan to leave an inch or two of air continuously by raising the back of the sash, as damp is a greater enemy than cold. This month the preparation of ground for spring-planting should be begun.

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DECEMBER

The work this month is similar to that in November, but as the weather will probably be colder, mats should be in readiness to place over the frames when there is more frost than one or two degrees. It will be well to take advantage of a fine day to stir the surface soil between the lines of the plants. These remarks apply to Sweet Violets, Pansies, and Violas.

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